Missouri
Botanical
Garden

bulletin

Winter 2009 Vol. 97, No. 1 www.mobot.org

A Sweet Tune: Here's to 150 Years!

See page 8.

Our anniversary celebration
is presented by EMERSON

SHOUT
SHARE
IT

photo by Kristi Foster

President's Comment

During these uncertain economic times, it gives me great comfort to consider the fact that this institution, founded on an Englishman's dream, has weathered 150 years. In 2009, the Missouri Botanical Garden celebrates its sesquicentennial with a look back at our history and a look forward to a sustainable future. However challenging the path, I know I can count on you, our friends and supporters, to help the Garden succeed and thrive in the coming years.

We are very pleased to thank Emerson as the presenting sponsor of our anniversary celebration. Thanks to all the many people who contributed with year-end support to the Henry Shaw Fund. Thank you to our new trustees, Steve Roberts and Bob Millstone, who joined our board last fall. Thank you for the wonderful leadership we continue to enjoy under chairman Nick Reding and vice-chair Carolyn Losos. Carolyn was recently named an "Ageless-Remarkable St. Louisan," and we couldn't agree more! Thanks are due as well to the many members of our Heritage Society, who support the Missouri Botanical Garden through bequests and other planned gifts.

This year, the Garden celebrates being "green for 150 years." We have plant science and conservation operations in 36 countries around the globe in a race to preserve biodiversity. Our William L. Brown Center works with medicinal plants and the peoples around the world who use them (see pages 16-17). Our Center for Conservation and Sustainable Development helps build a core of committed, educated citizens to protect their own natural resources from degradation and exploitation in countries where the need is greatest. As you consider New Year's resolutions, join the Garden in a pledge to "grow green" (pages 8-9) and become a better steward of the earth!

Peter H. Raven

Dr. Peter H. Raven, *President*

To discover and share knowledge about plants and their environment, in order to preserve and enrich life.

– mission of the Missouri Botanical Garden

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Ready to Go Electronic?

New in 2009, the Bulletin is available as a downloadable PDF for viewing onscreen on your computer, iPhone, etc. Sign up for the new online-only version by sending an email to membership@mobot.org. (Let us know if you'd like to forego your paper subscription to save trees.) Last year, the *Bulletin* became a quarterly publication. We're staying quarterly, but modifying the schedule. This issue covers only two months so that next issue will cover March, April, and May.

On the Cover:

Archival photo of violinist on an Amazon water lily. 1890, MBG Archives.

Credits

Editor: Elizabeth McNulty
Designers: Ellen Flesch, Jeff Ricker

The *Bulletin* is a benefit of Garden membership.

The BULLETIN (ISSN 0026-6507) is published quarterly by the Missouri Botanical Garden, 4344 Shaw Blvd., St. Louis, MO 63110. Periodicals postage paid at St. Louis, MO

Garden Hours

Open daily 9 a.m. to 5 p.m.
Closed December 25. Parking is free.

General Admission

Adults $8; Members and children 12 and under free

★ *Special events require an additional fee.*

St. Louis City and County visitors, with proof of residency, receive a discount on admission and free admittance on Wednesday and Saturday mornings until noon (unless special event pricing applies).

Contacts

Garden operator (314) 577-5100 from 8:30 a.m. to 5 p.m.
24-Hour Event Hotline (314) 577-9400
Website: www.mobot.org
Garden Gate Shop: www.gardengateshop.org

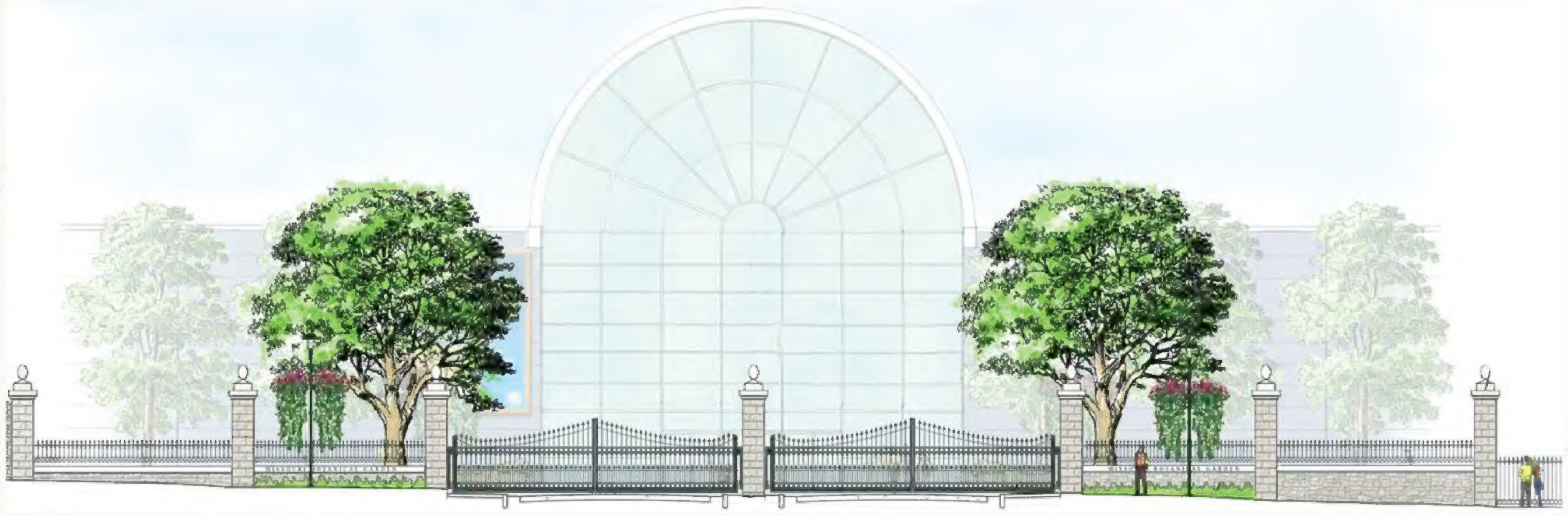
Sustainability Statement

The Missouri Botanical Garden *Bulletin* is printed on paper containing 100% post-consumer recycled content, that is, paper that you might have placed in the recycle bin in your home or office this year. It is manufactured using wind power, a renewable energy source. We print locally, so there is no long-haul transportation, and we're reinvesting in our community. We work hard to choose the most environmentally responsible paper around. So if you aren't quite ready to go completely electronic with our online version, you can still enjoy your paper *Bulletin* in good conscience. Once you've read it, please recycle.

Members' Online Ticket Code

Enter your membership number and the code **henryshaw**.

NEWS



Artist's rendering of new main drive.

Main Drive Improvements

Last October, the Garden began the first phase of a facelift for the front entry at 4344 Shaw. When complete, the project will improve vehicular traffic flow, enhance safety for pedestrians, increase lighting, provide bike racks, and beautify the entry with new wrought-iron fencing. While the drive is under construction, free on-site parking is available via temporary entrances around the corners at Alfred and Tower Grove avenues.

photo by Leslie Wallace

Dr. Peter H. Raven presents the Henry Shaw Medal to Dr. Thomas E. Lovejoy.

Henry Shaw Medal

On Monday, October 13, at the annual Henry Shaw Dinner, the Garden awarded the Henry Shaw Medal to Dr. Thomas E. Lovejoy. Dr. Lovejoy is president of the H. John Heinz III Center for Science, Economics, and the Environment (www.heinzctr.org). An ecologist who has worked in the Brazilian Amazon since 1965, Lovejoy has focused on the interaction between climate change and biodiversity for more than 20 years. He is also the founder of the iconic public television series *Nature*.

Awarded since 1893 and named for the Garden's founder, the Henry Shaw Medal is the Garden's highest honor and is granted to those who have made a significant contribution to the Missouri Botanical Garden, botanical research, horticulture, conservation, or the museum community.

Welcome, New Trustees!

At their October meeting, the Garden's board of trustees welcomed two new members:

Steve Roberts

Steve Roberts, president and chief operating officer of The Roberts Companies, a real estate development, television broadcasting, telecommunications, and construction management firm. Roberts earned his J.D. and Masters of Law from Washington University and has been active in a number of organizations, including Barnes Jewish Hospital Foundation, the St. Louis Black Leadership Roundtable, the Center for Emerging Technologies, Children's Hospital Foundation, and the Saint Louis Zoo Foundation.

Bob Millstone

Bob Millstone, president and founder of The Millstone Company, a real estate and private equity investment firm. Formerly president of Millstone Bangert Inc., Millstone also served as senior trial attorney for the tax division of the U.S. Department of Justice. Millstone earned his J.D. and his M.B.A. from Washington University and has been active in a number of organizations, including Barnes Jewish Hospital Foundation, Good Government for Missouri, Jewish Federation of St. Louis, Millstone Foundation, and University of Missouri–St. Louis's Chancellor's Council.

Members of the Garden's new Corporate Council met November 19 at the Garden.

Corporate Council

The Missouri Botanical Garden has established a new Corporate Council. The Council, chaired by Pamela Jackson, Vice President, Technology for Emerson, is designed to deepen the Garden's relationship with the corporate community through education, volunteer opportunities, and special events. The Garden is pleased to announce the members of the Corporate Council:

Pamela B. Jackson, Emerson, Chair
Don Brown, Guarantee Electrical Company, Inc.
Emily Conley, CBIZ & Mayer Hoffman McCann P.C.
Ken Crawford, Argent Capital Management
Bill Croghan, Boa Construction Company, Inc.
Kevin Eblen, Monsanto Company
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Gary L. Graham, City of O'Fallon, Illinois
Shawn D. Hagan, Fifth Third Bank
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Daniel G. Jay, Christner Inc.
Lawrence P. Katzenstein, Thompson Coburn LLP
Todd Kinnikin and Michael Kinnikin, Eureka Forge
Jerry Kluge, J.W. Terrill
C. Eric Lobser, Laclede Gas Company
Karen Marino, SSE
Susan Neumann, Smurfit-Stone Container Corp.
Douglas W. Rau, Sigma-Aldrich Corporation
R. Duane Reed, R. Duane Reed Gallery
Brian Rothery, Enterprise Rent-A-Car Company
Beth Rusert, Maritz Inc.
Christoph H. Schmidt, CSI Leasing Inc.
Eric Schreimann, Regions Bank
Deborah Seidel, Bunge North America, Inc.
Jill Sickmann, Ronnoco Coffee Company
Donnell Siebert, Hager Companies
Jeff Stuerman, Edward Jones
J. Kim Tucci, The Pasta House Company
Jackie Watson, U.S. Bank, N.A.
Kathleen A. Wunderlich, Northern Trust Bank

For information regarding the Corporate Council, please contact the Institutional Advancement office at (314) 577-9495.

Stubb's Supper Restored

Last July, conservation was completed on one of the Garden's most famous works of art, *Stubb's Supper,* by renowned sculptor Frank Stella. The large sculpture is a reference to Herman Melville's 1851 novel *Moby Dick*. Portions of the sculpture had rusted, corroded, and faded. BRH Sculpture Conservation LLC removed the sculpture's steel sections for offsite sandblasting and treatment. The pieces were protected, painted where appropriate, and then reassembled at the Garden.

photo by Lauren Kirkwood

Stubb's Supper *by Frank Stella.*

Vice-Chair Losos Wins Award

Ageless-Remarkable Carolyn Losos.

At a dinner in November, the vice-chair of the Missouri Botanical Garden's board of trustees, Carolyn Losos, was named one of the 2008 class of "Ageless-Remarkable St. Louisans." The awards are given annually by the St. Andrew's Charitable Foundation to a group of energetic, productive St. Louisans over the age of 75 in recognition of their contributions to the community well after the age of retirement. Losos has been vice-chair of the Garden's board since 2006.

In memoriam:

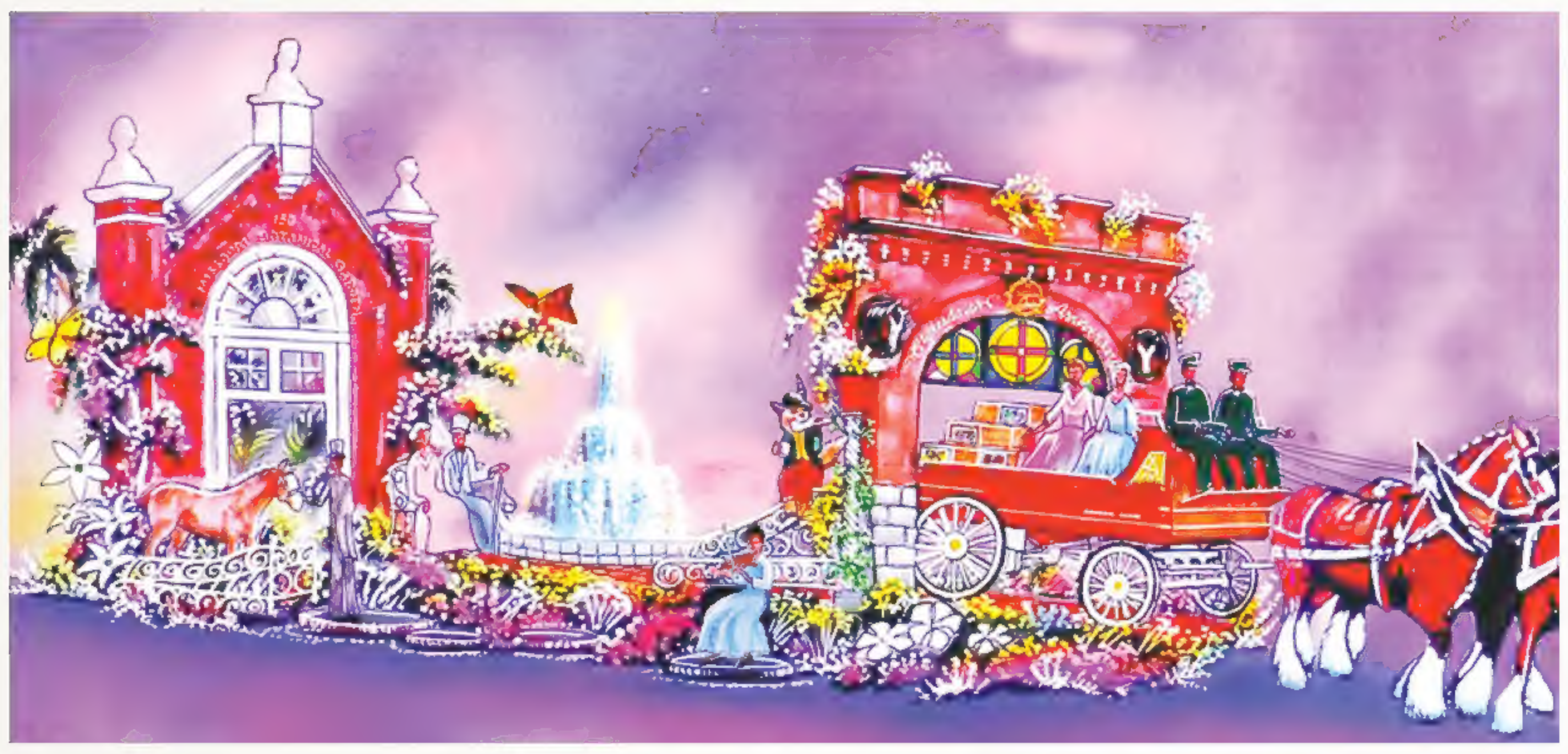
Margaret "Peg" Grigg

Margaret "Peg" Grigg
1914–2008

Margaret "Peg" Grigg, a treasured friend of the Missouri Botanical Garden and long-standing supporter of cultural life in St. Louis, died September 23, 2008.

Ms. Grigg was a member of the Garden's board of trustees since 1984 and a volunteer for many years. Her relationship with the Garden began decades earlier when she strolled Garden grounds as a child with her father. She went on to volunteer for 25 years in Tower Grove House and to make many generous financial contributions. In 1982, she dedicated Grigg Hall in the Garden's Ridgway Visitor Center in memory of her husband, Hamblett Charles Grigg, former president of the 7-Up soft drink company. In 1996, in honor of her parents, Robert and Estelle Blanke, she contributed a gift that established the Margaret Grigg Nanjing Friendship Garden, one of the nation's earliest and most authentic Chinese gardens.

Ms. Grigg was awarded the Garden's highest honor, the Henry Shaw Medal. In addition to the Garden, Ms. Grigg contributed her time and resources to the St. Louis Symphony Orchestra, the Missouri Historical Society, the St. Louis Art Museum, and Opera Theatre of St. Louis. Her friendship, generosity, and deep commitment to the mission of the Missouri Botanical Garden, as well as other cultural institutions, set an outstanding example of leadership in the St. Louis community.


Artist's rendering of the float featuring the Garden.

Rose Bowl Parade

On January 1, the Garden's sesquicentennial kicks off with a very special float at the Tournament of Roses Parade in Pasadena, California. The city of St. Louis float, made possible by Anheuser-Busch, honors the 75th anniversary of the Budweiser Clydesdales and the 150th anniversary of the Missouri Botanical Garden. The Garden's historic Linnean House conservatory, famous tropical water lilies, and a young Henry Shaw are surrounded by flowers on the Clydesdale-drawn display.

New Vietnamese Herbarium

Drs. Rainer Bussmann and Wendy Applequist of the Garden's William L. Brown Center are developing a natural products discovery program in Vietnam in collaboration with Vietnam's Institute of Ecology and Biological Resources (IEBR) and the University of Mississippi. Collecting is expected to begin next year in Bach Ma National Park. The forests of Bach Ma, which include the wettest spot in Vietnam, suffered heavy damage during the Vietnam War. Nevertheless, the park preserves remarkable diversity, with over 2,000 reported plant species—and one tiger! In October, Bussmann and Applequist helped IEBR to set up an herbarium for the park with cabinets and dehumidifiers, and five rangers were trained to collect and prepare specimens. Bach Ma recently expanded its boundaries, and an on-site herbarium will allow park staff to identify and document the flora of the land in their charge.

photo by Wendy Applequist

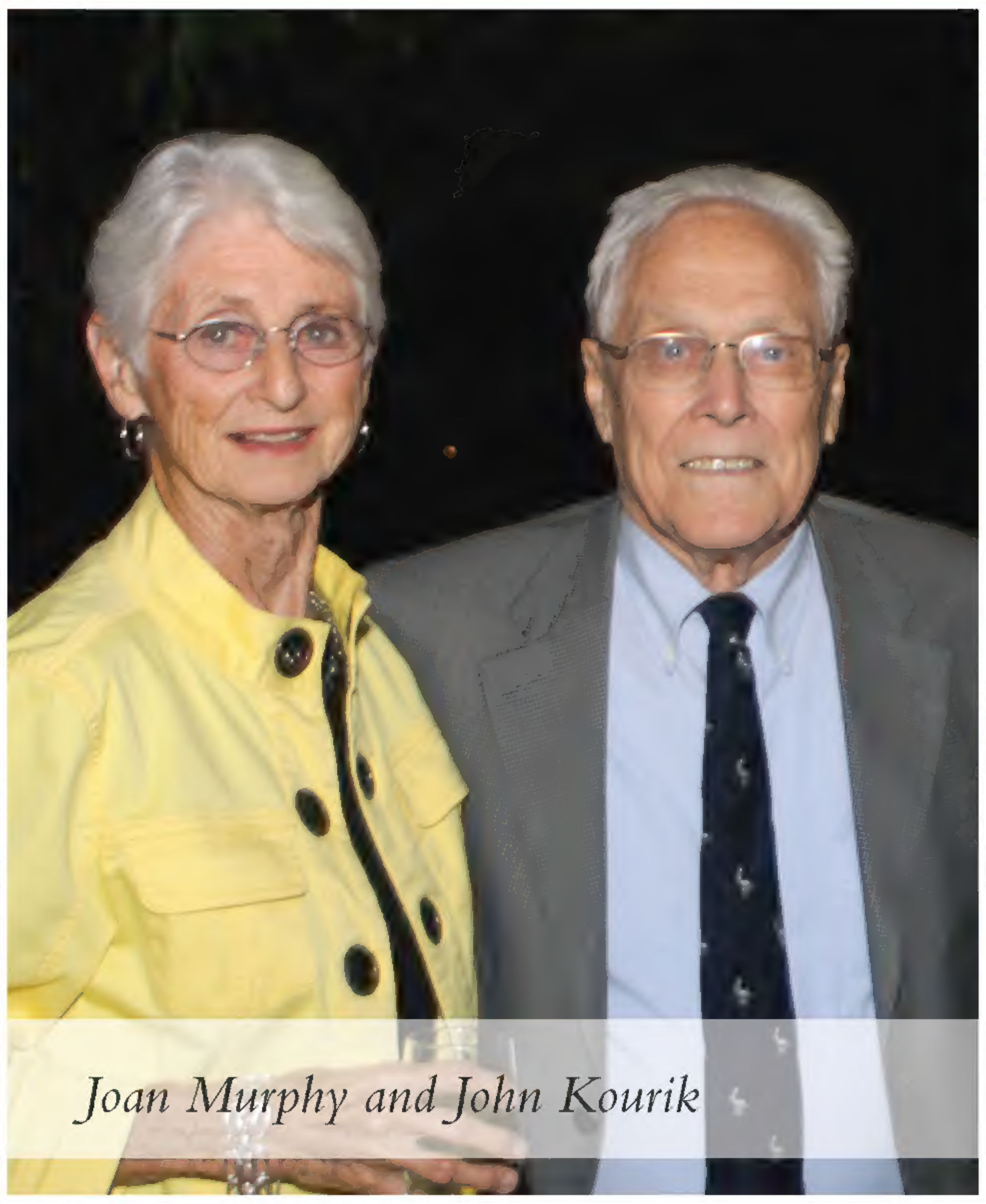
Dr. Bussmann with Bach Ma director Dr. Huynh Van Keo (left) and park rangers, displaying a specimen collected from the park in front of the herbarium's new custom-made cabinets.

Henry Shaw Dinner

On Monday, October 13, the annual Henry Shaw Dinner welcomed 250 of the Garden's most ardent supporters for a lovely evening of fine weather and a last viewing of the popular *Niki* sculptures. The Henry Shaw medal was awarded to Dr. Thomas Lovejoy that evening (see p. 4).

Bob and Carol Jones, Robbie and Ted Beaty

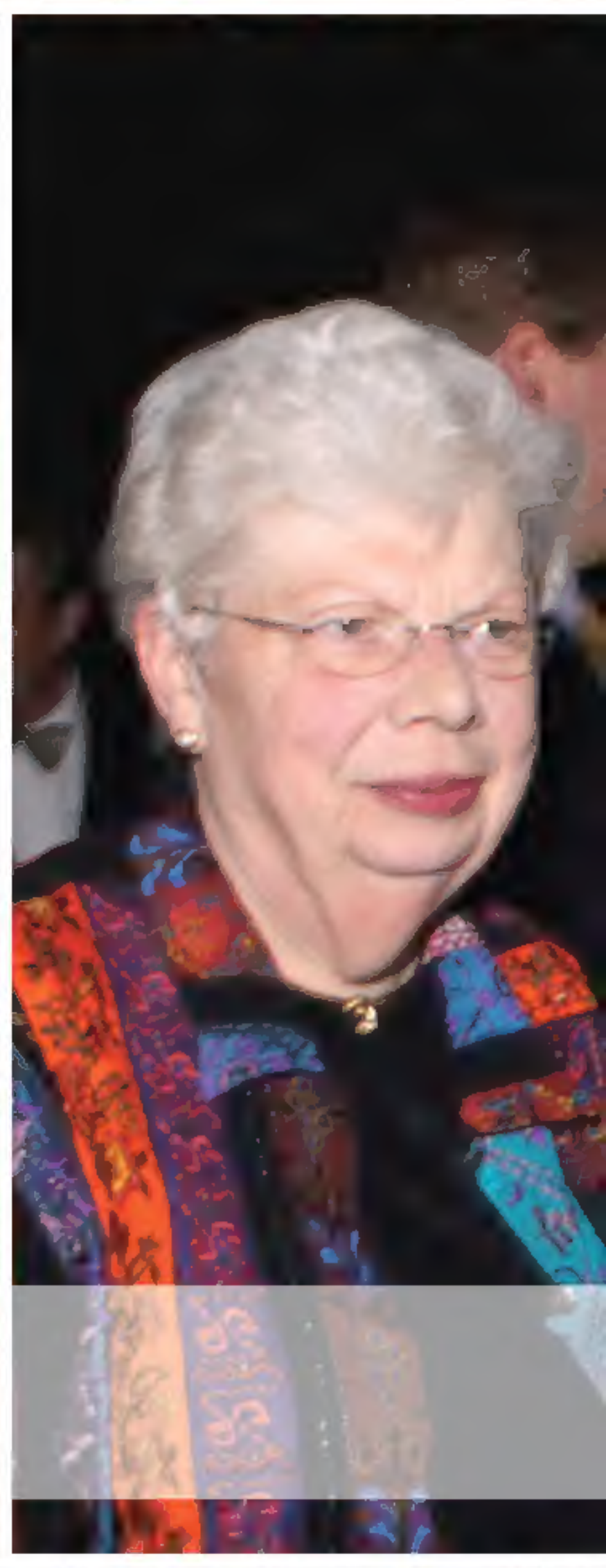
Janelle and Jim Criscione


Joan Murphy and John Kourik

Pauline Jaworski, Chuck and Sue Oertli, and Ernie Jaworski

Bob and Susie Schulte, Marie Schmitz, Marian Freschi, and Walter Schmitz

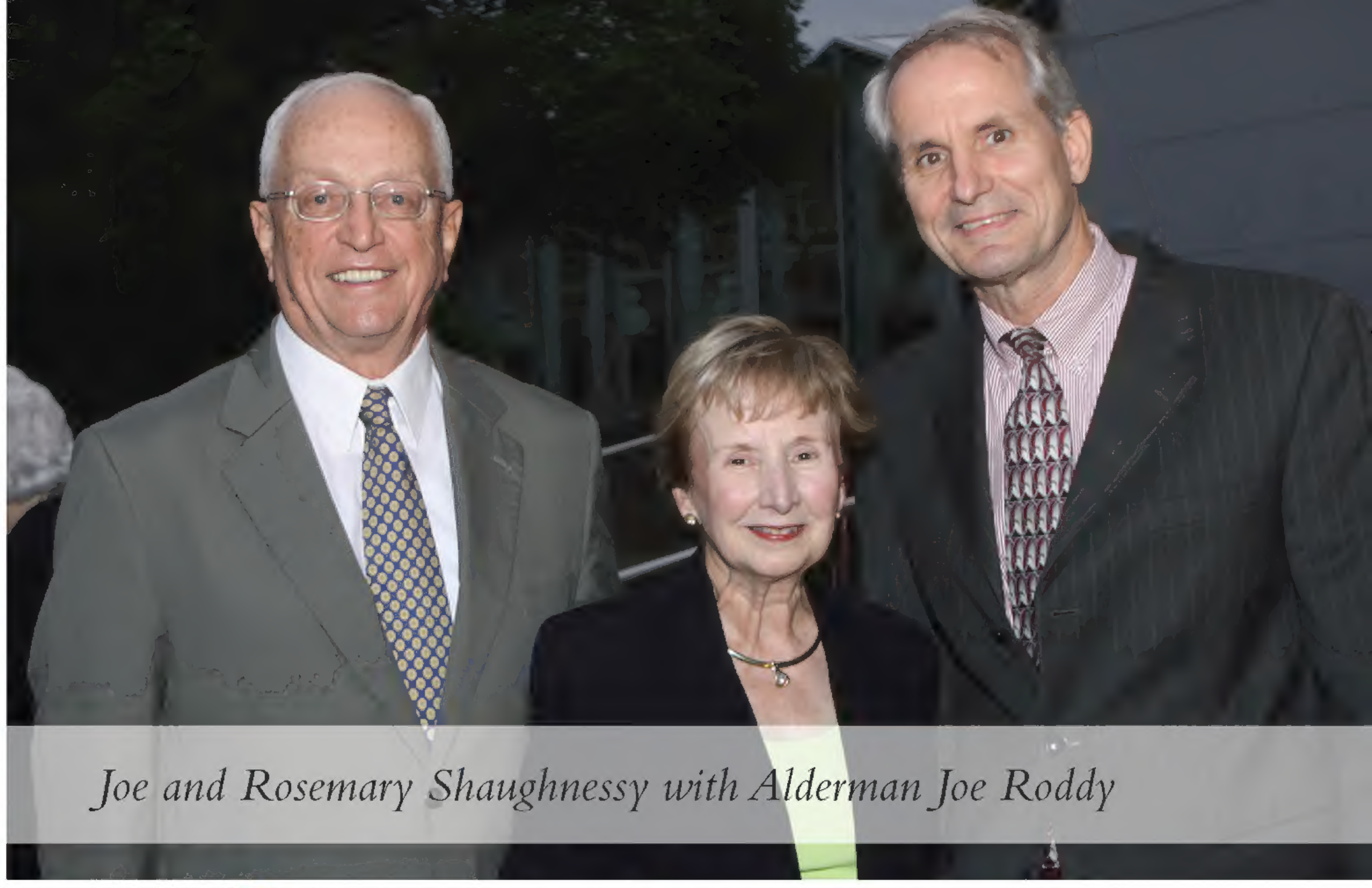
Zelema Harris, Charles Barnes, and Diane Barnes



Jim and Carol Squires, Laure and Jim Hullverson

Greg and Prissy Evans

Guests enjoying cocktails before the annual Henry Shaw Dinner.


Joe and Rosemary Shaughnessy with Alderman Joe Roddy

Midge Tooker, James MacDonald, and Isabelle Morris

Sharon and Rick Huemoeller

Henry Shaw
Monday, October

Jeff and Susie Stuerman

Carol and David Gast, Ann Augustin, Lee Bohm, and Lucy Lopata

Thom and Patti Lewis

photos by Leslie Wallace

TOWER GROVE
MAGNOLIA
ce Henry Shaw.
r's Rooms.
um.
No. 4. Museum.
No. 5. Pavilion.
No. 6. Palm House.
SHAW'S GARDEN.

MISSOURI BOTANICAL GARDEN
green for 150 YEARS 1859–2009

GREEN FOR 150 YEARS

The Missouri Botanical Garden Celebrates Sustainability for the Future

The Missouri Botanical Garden opened to the public on June 15, 1859, making it the oldest botanical garden in continuous operation in the nation. In 2009, the Garden observes our 150th anniversary, or sesquicentennial. Join us throughout the year as we celebrate our heritage and look forward to the next 150 years.

Celebrating the Garden's Heritage

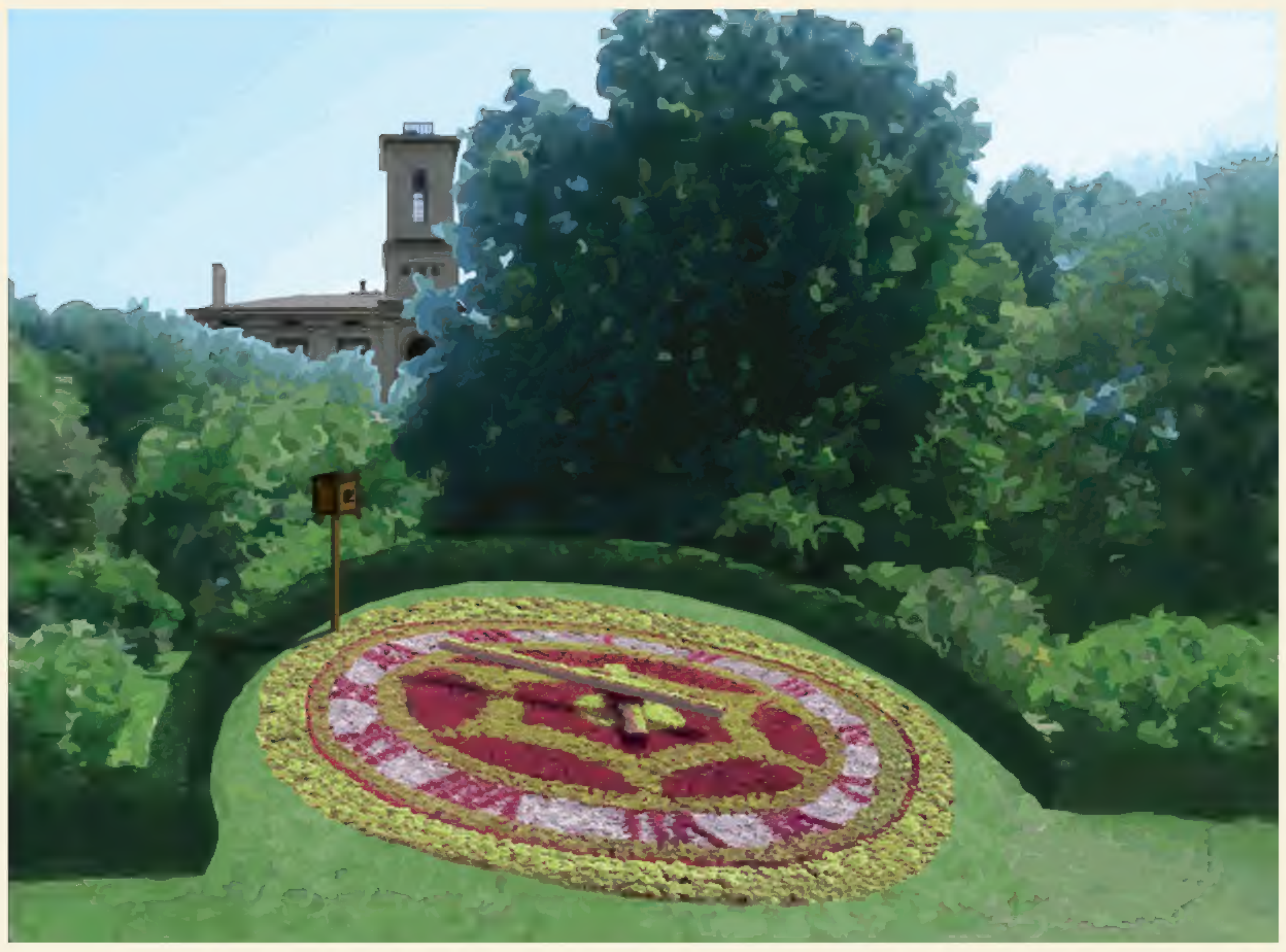
In 2009, "Shaw's Garden" will pay tribute to both its Victorian and St. Louis roots with a **floral clock**. First developed in Edinburgh, working floral clocks rocketed to popularity with the 1904 World's Fair, when St. Louis displayed a magnificent example. In 2009, from April through October, the Garden will feature a new floral clock near the historic reflecting pools. Twenty feet across and highlighting seasonal flowers of all varieties, the clock will feature a working cuckoo chirping every quarter hour.

The William T. Kemper Center for Home Gardening will display **heirloom vegetables** from the second half of the 19th century in the Family Vegetable Garden. Beets, cabbage, beans, eggplants, tomatoes, and squash varieties grown from seed will reach peak bloom from late spring through summer. Several of the varieties were grown by Shaw himself.

Shaw kept handwritten journals of his European travels in the 1840s, documenting the places he saw, foods he ate, books he read, and

Our anniversary celebration is presented by EMERSON.

> *"In addition to being a beloved oasis for beleaguered urbanites, the Missouri Botanical Garden is a sanctuary for the plants themselves, the natural habitats of which are shrinking at alarming rates."*
>
> *–Green for 150 Years*



The Garden's floral clock pays tribute to our Victorian history—and to St. Louis!

more. These never-before-seen travelogs are one of the few personal documents written by Shaw that exist today, and will be made public for the first time in 2009. Read **Travels with Henry** throughout the year on the Garden's website, www.mobot.org. When you visit, take the cell phone **history audio tour** to hear what Shaw might say about his beloved Garden today.

Championing a Sustainable Future

Pledge to "**Grow Green with the Garden"** in 2009 by resolving to make sustainable lifestyle choices. *Sustainability is meeting the needs of the current generation without compromising the resources available to future generations.* In spring 2009, pick up a pledge card on-site or visit www.mobot.org to select one or more environmentally-friendly choices to benefit the earth.

Pledge to Grow Green with the Garden by making simple lifestyle changes.

Learn more about sustainable living at the **Green Living Expo**. Visitors to the Brookings Interpretive Center from May 1 through October 31 can peruse goods, services, and information designed to help you grow green. The expo is an extension of a Garden-sponsored green living weekend at the Saint Louis Science Center in early spring 2009.

The Garden will also offer a first-of-its-kind lecture series, **The Global Garden**, beginning in March. See page 30 for more details. The series reflects the Garden's core objective to help people throughout the world conserve and manage Earth's resources.

Missouri Botanical Garden

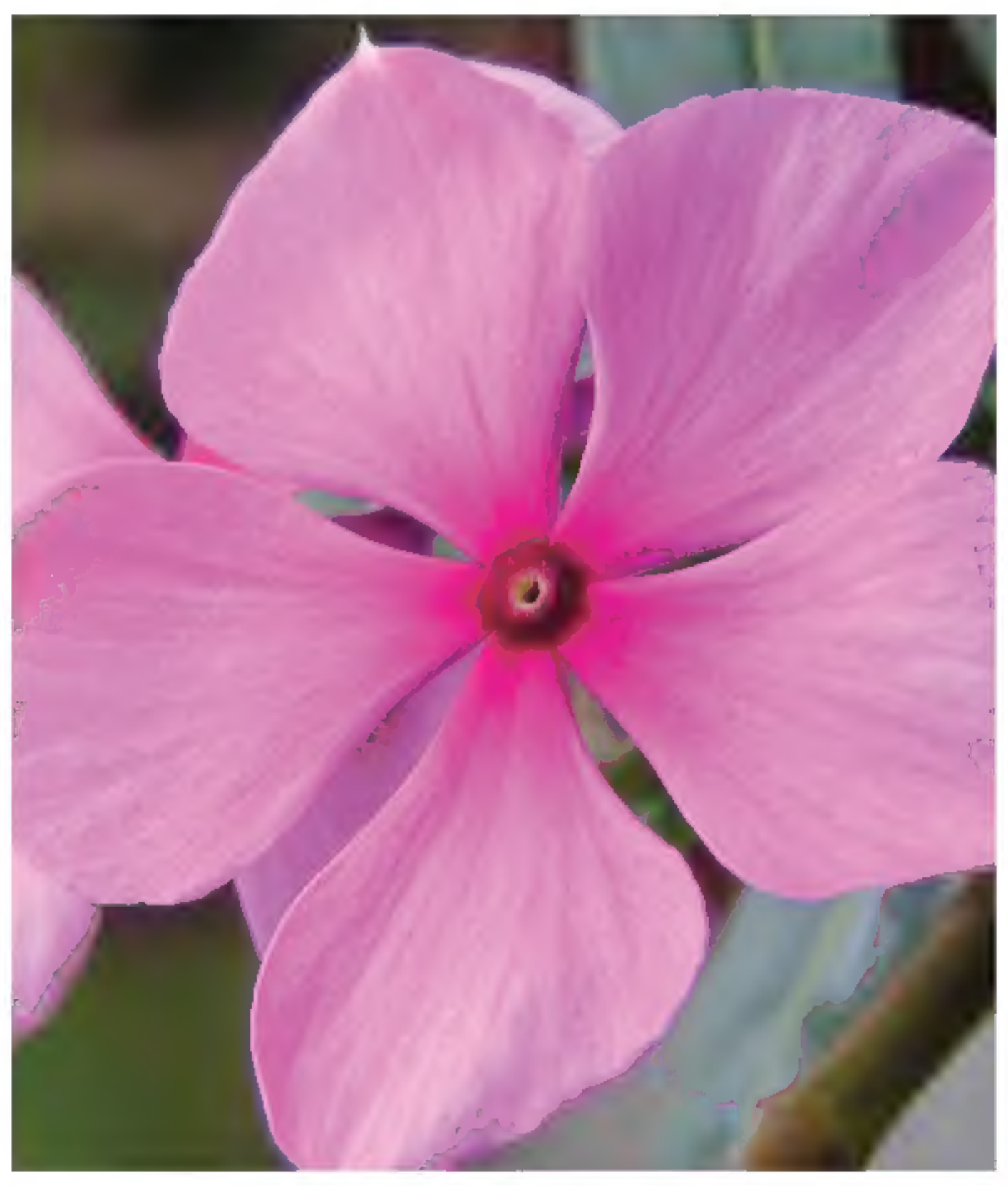
Commemorative edition available with limited edition print while supplies last at www.gardengateshop.org.

GET YOUR COPY

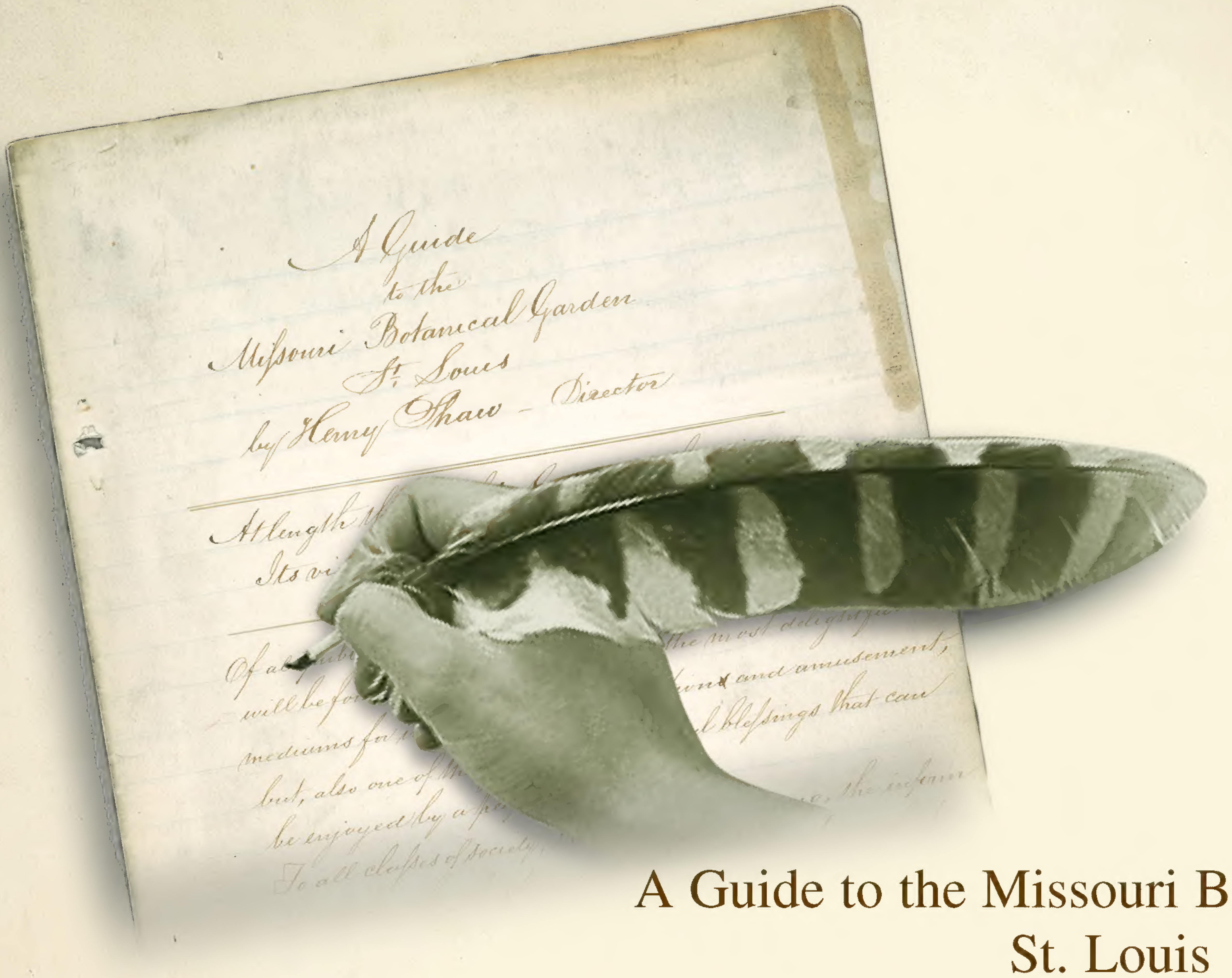
Purchase your commemorative edition of the *Missouri Botanical Garden: Green for 150 Years* (with over 400 photos and a foreword by Dr. Peter H. Raven) in a collector's slipcase and receive a limited edition 8" x 10" print by renowned photographer Ian Adams, while supplies last. Available for purchase in the shop or online at www.gardengateshop.org.

Science and Conservation

The Missouri Botanical Garden operates one of the three largest plant science programs in the world, with researchers in 36 countries on six continents. Learn more about these science and conservation efforts with displays and exhibits throughout the year, highlighting the Garden's projects and areas where the Garden works. The Garden also joins forces with *Prevention Magazine*, the Siteman Cancer Center at Barnes-Jewish Hospital and Washington University to present a two-day community **celebration of medicinal plants and healthy living** in July. Business leaders and interested individuals are invited to attend a plant science symposium on Friday, July 17, focusing on the science and business of plants in St. Louis's "BioBelt" region. On Saturday, July 18, visitors can pay tribute to the healing power of plants like the rosy periwinkle (used to treat childhood leukemia) and enjoy *Prevention Magazine's* "Healthy You Healthy Planet" Festival.



Rosy periwinkle is used to treat childhood leukemia. Learn more about the power of plants at www.mobot.org/power.



A Guide
to the
Mifsouri Botanical Garden
St. Louis
by Henry Shaw – Director

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To all classes of society

A Guide to the Missouri Botanical Garden
St. Louis
By Henry Shaw

At length, the finish'd Garden to the view,
Its vistas open, and its alleys green

First open to the public in 1859, the Missouri Botanical Garden is the oldest botanical garden in continuous operation in the United States and one of the only gardens to achieve National Historic Landmark status. In 2009, we celebrate the Garden's 150th anniversary, or sesquicentennial, with the publication of a series of reprints of historic documents.

Among the various papers left by Henry Shaw was his "Guide to The Missouri Botanical Garden." This document consists of some 500 pages in Shaw's handwriting, begun about 1880 and completed when Shaw was 85 years old, four years before his death. Excerpted here are the introductory passages, reproduced exactly as Shaw wrote, with occasional British spelling and non-standard punctuation. It has only been printed once before, in the September issue of the 1943 *Bulletin*.

Of all public resorts a scientific garden when properly kept, will be found to be, not only one of the most delightful mediums for intellectual gratification and amusement, but, also one of the greatest of temporal blessings that can be enjoyed by a people.

To all classes of society, the old and the young, the infirm invalid, or the robust and the vigorous, the rich and the poor, a garden may be considered almost alike an object of interest, of instruction, and amusement. It is a field which abounds with objects, that generally make lasting impressions on the mind; and happily there are but few, who, however unacquainted with the principles of botanical science, are not more or less filled with admiration at the endless variety of form, presented by any considerable assemblage of the vegetable kingdom; their grotesque trunks, and tapering stems; their leaves so varied in shape, and so beautiful in structure; their flowers, so curious in their parts, so diversified in colour, and often so exquisitely fragrant; but above all, how admirably adapted is each, in one way or another, for the use and gratification of man.

A Guide that should indicate to strangers the more remarkable features of the Missouri Botanical Garden of St. Louis, and point out the many interesting plants cultivated there, has long been a desideratum[1]. The very fact of the continual additions to the plants, and their rapid growth, renders it difficult to give a perfect Guide or Handbook, for only reference to the more remarkable objects can be desired; the constantly increasing bulk of the plants, and fresh arrivals of novelties, causes such a guide to become in a measure imperfect soon after its publication. In summer from May to September, most of the plants are placed in the open air; thus individuals that are recorded as occupying any particular plant house, may require shifting the very next day. It must also be obvious to every intelligent observer, that in a comparative limited collection, requiring artificial protection, not botanical

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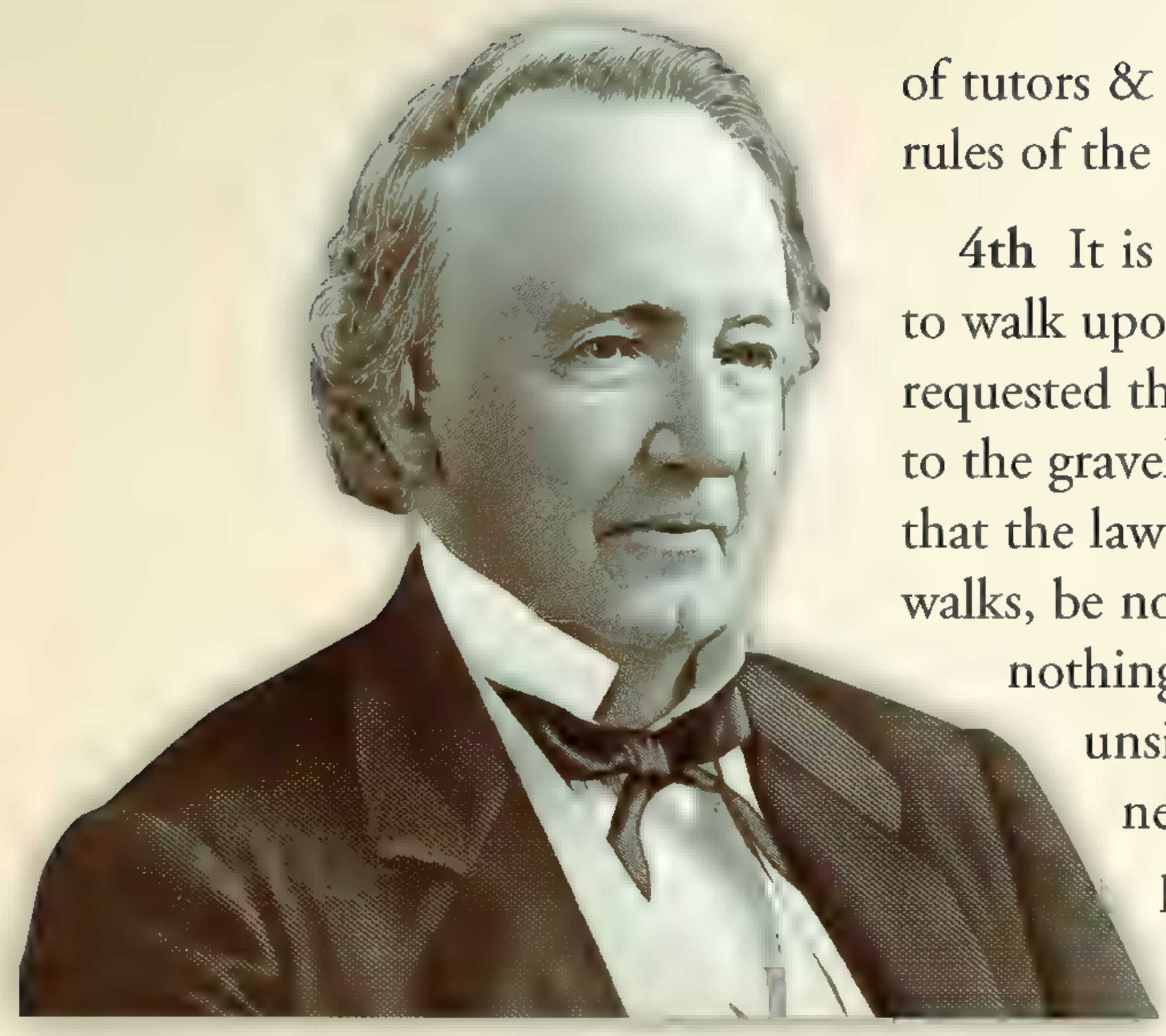
[1] Latin, something desired as essential.



Henry Shaw

arrangement, or class divisions can be expected; in cultivation, the required temperature has to be attended to, any neglect of which would be speedy destruction to tropical plants.

This Guide is historical and descriptive, rather than botanical, a science to which the writer has but small pretensions, and tho' little qualified, knew no other person competent and willing to undertake the task; so it is nothing more in fact, than a compilation of information gathered from various sources. The beauty of these grounds, and the plants they contain, combined with the free admission of the public, attracts, as may be supposed, at certain seasons, a great crowd of visitors, and a few needful regulations here given, are mainly taken from the Guides of the Kew Gardens.

1st Smoking, or eating & drinking or the carrying of provisions of any kind into the Gardens, are strictly forbidden, No dogs can be admitted.

2nd No packages or parcels, bags or baskets are allowed to be carried into the grounds. All such must be deposited at the Gate of Entrance, while the owners make the tour of the Gardens.

3rd No person attired otherwise than respectably can enter, not children too young to take care of themselves, unless a parent or suitable person be with them—the police (when there) save orders to remove such, or also persons guilty of any kind of impropriety, and when large schools are admitted they to be accompanied by a requisite number of tutors & in accordance with the rules of the Garden.

4th It is by no means forbidden to walk upon grass walks, still it is requested that preference be given to the gravel-paths & especially that the lawn edges parallel to the walks, be not made a foot way, as nothing renders them more unsightly. It is scarcely needful to say that all play, leaping over beds, running in the grass & slopes are prohibited. The Gardens are intended for agreeable recreation and instruction, not for idle sports.

5th It is requested that visitors will refrain from touching the plants, and flowers; a contrary practice can only lead to suspicion, perhaps unfounded, that their object is to abstract a plant or flower, which when detected must be followed by expulsion.

6th in entering the plant houses it is particularly requested that visitors will keep to the right, if they do otherwise they will pass each other which the narrowness of the walks renders difficult, and this must occasion inconvenience to all parties, and often injury to the plants.

The accompanying plan of the grounds will, it is expected, prove useful to the visitor. More might be said on these heads, but while bearing testimony to the excellent conduct of the many thousands who frequent the gardens, I prefer to rely on the good sense and honorable feeling of visitors, and the value they must attach to the privilege here afforded, rather than multiply restrictions that may not be absolutely required.

It will be observed the Garden is in three grand divisions.

1st The Garden proper, containing the plant houses for tropical and other plants requiring protection, but which in summer are put out of doors, except the ferns and large palms; the Herbaceous ground with plants scientifically arranged and named, is in the centre around use pavilion, and the Cacti in the north end of the Garden next the wall.

2nd The Fruticetum, for Shrubbery, and experimental fruit garden.

3rd The Arboretum, containing a collection of Trees comprising all that will grow in the open air in this climate and locality; a Pinetum for the pine family, a Querecetum for oaks, and Salicetum for willows.

To strangers desirous of presenting museum objects or plants to the Garden from abroad, I here take leave to mention that its dispatching packages or parcels, the quickest mode of transit is always the best. The address should be

To Henry Shaw
Missouri Botanical Garden

BRIEF HISTORIC NOTICE

The public being freely admitted to the Gardens, under a few needful regulations, must naturally want to know something, about improvements, and the intentions of the projector in making these collections of plants & plantations, of trees & shrubs. It is with a view to satisfy such laudable curiosity, and to increase the interest with which the Gardens are visited that this Guide is now compiled.

About the middle of the last century the spot that now forms the Botanical Garden at Tower Grove, was a fertile rolling prairie, & from its productiveness was early selected for cultivation by the inhabitants of the village of St. Louis—it was separated from the Commons by a fence running along what is now call'd Grand Avenue—and concessions or donations of land made by the Spanish Military Commanders to such heads of families as required them, of one or more arpents in width by forty deep running west & so cultivated in. Maize & Wheat, but more frequently left in Natural Grass, to cut for hay—the fence was kept up against animals feeding on Commons, until about 1780. A Gate was kept, near where the East Gate of Tower Grove Park now stands, on Grand Ave., by a concessioner, call'd Louis Denoyer who lived there until the year of the attack by Indians 1780, the place being call'd Barrière à Denoyer, the concessions of land being so designated, as recorded in the old Livre terrien or Land Book.

About the year 1830 Thos Jefferson Payne becoming the owner of some of the 40 arpen'lots, enclosed a portion of the west end & erected a small house in 1840 which Henry Shaw came into possession by purchase &by perfecting the title to the acquisitions of Payne & further purchases from the old French claimants—Payne had built stables for the keeping of blooded horses, and laid off a race tract, the centre of which was the grove, near which in 1849 Shaw (the writer) erected his house, with a tower &called it Tower Grove and from that date to the present time, he has been assiduously occupied in laying off avenues & planting trees. During his travel in Europe from 1840 1850, observing the great attention paid to public Parks & Gardens in England, France & Germany & the high esteem which these institutions are held by the people of those countries, he conceived the idea of founding a Missouri Botanical Garden—for which, the grounds, ample in extent, & in close vicinity to the future great city of the west were so appropriate; & the quality of the soil being all that could be desired. The plan of the Garden was determined on, drains constructed, & the walls surrounding the same commenced in 1855—a number of Bohemian cultivators were engaged & the soil of the Garden & Fruticetum (16 acres) trenched or turned over two feet deep—the substantial enclosures & entrances being finished, the Museum and Library was built in 1860, the books and herbarium for which were selected by our learned citizen Doct. Geo. Engelmann during his visit to Europe about that time. In 1870 the plants requiring more room than the original houses afforded, the Palm house was erected in a more central part of the Garden, which with the additional wings for mist stove & temperate houses affords accommodation to accumulative treasures of the vegetable kingdom, for which still further space being required a larger house with double walls & glass

continued on page 12

continued from page 11

was constructed in 1882 and dedicated to Linnaeus by placing his bust on the entrance. That interesting division the Arboretum, was commenced in 1860 & planted from that time to the present—it contains a collection of all such trees as will grow in the open air in the climate of St. Louis—persevering attention been paid to the pineturn where will be found growing specimens of the Coniferae. The Querceturn includes such Oaks as have been found hardy—when the importance of timber trees is considered and the length of time required for the full growth of the most usefull & desirable kinds these specimens will be most interesting to future planters of timber trees. Medicine, commerce, agriculture, horticulture, & many valuable branches of manufacture, will derive much benefit from the establishment & maintenance of a Botanical Garden at St. Louis—the climate being intermediate more species of plants can be cultivated than either north or south of this latitude—The Garden in its three divisions (comprising from 50 to 60 acres) from the first has been open to the public for daily admittance not only the grounds, but the plant houses & museum are open to visitors, the number of whom during the past twenty years had been near a million.

GARDENS & BOTANIC GARDENS

Gardening at the present day is divided into many branches. We have landscape gardening, teaching us hew to lay out our grounds to the best advantage, how to plant out woods and dispose of water, how to build our houses, and make our roads, walks, and fences, so that we may gain the worlds approval. We have vegetable gardening and market gardening, teaching us how an abundant supply of vegetables may be obtained at all seasons of the year. We have flower gardening in many a style and character—Florists Gardens, for sale of flowers, Nursery Gardens for sale of Plants and trees, and Botanic gardening.

It is recorded of the first created of our race, that, to fully enjoy the blessings of life, he was to dress and keep a garden; and his first pursuit was horticulture. The good gardener of those days was not only the first of men, but the most honored of mortals; and while he faithfully followed that ancient occupation, manifested the highest state of civilisation the world has ever seen. He conducted the first operations of that model of a goodly Garden, but when he ceased from his labours therein, happily bequeathed to prosperity, an enduring, and appreciative taste for the gentle art he loved so well. The legacy he left us has found claimants in all civilised communities and countries from that remote age until now.

Gardening as an Art. To adopt the words of Christowell, There is nothing in the world half so beautiful as the gardeners work. What are jewellers, or watchmakers or ivory carvers, or even painters, to compare with a genuine Gardener? The things that they handle are dead and artificial, and cannot know the treatment they receive. But our work is living and natural, and knows us, and adapts itself to follow our desires and pleasures. It has its own tempers, and moods of feeling, the same that we have; for every plant that lives is sensitive.

Botany is that branch of Natural History which relates to the vegetable kingdom, not only the naming and classification of plants, but embracing all the phenomena of vegetable life in their widest extent; of the external forms of plants, and of their anatomical structure however minute; of the functions they perform, of their distribution over the globe at the present, and at former epochs, and of the uses to which they are subservient. 1st examines the plant at its earliest state of development, when it appears as a simple cell, and follows it thro' all its stages of progress until it attains maturity. It takes a comprehensive view of all the plants which cover the earth, from the minutest lichen or moss, only visible by the aid of the microscope, to the most gigantic production of the tropics…

Continued on the Garden's 150th anniversary webpages at www.mobot.org.

Featured Plant of Merit™

photo from Missouri Botanical Garden Plantfinder

Redbor provides a rich backdrop to this container planting.

Ornamental Kale *Brassica oleracea* 'Redbor'

This kale is grown primarily in cool spring or fall weather as an ornamental foliage plant, although it is edible (a new category in the Plants of Merit). Upright purple-red leaves feature curled/frilled edges and intense color. As fall temperatures drop, leaf color darkens and intensifies. Prefers rich moist loam in full sun.

Plants of Merit™ is a program of the Missouri Botanical Garden. Plants are selected by regional horticulture experts for outstanding qualities and dependable performance in the lower Midwest. View all current selections at www.plantsofmerit.org.

Double Your Money

Throughout 2009, the William T. Kemper Foundation—Commerce Bank, Trustee will match your donations to the Plants of Merit program, dollar for dollar up to $50,000. To participate, please contact the Institutional Advancement Office at (314) 577-9513.

Over 335 Tons Recycled to Date!

The Garden operates the most extensive gardening plastic recycling program in the nation: Plastic Pot Recycling. In 2008 there was a record tally: 150,000 pounds! This amount brings the total collection to over 335 tons of plastic garden pots, cell packs, and trays kept from landfills to date. With the help of over 75 volunteers, the plastic is granulated on-site into small chips that are easily transported for recycling. Retaining wall ties and timbers made from the plastic regrind are sold back to consumers for use in landscaping projects. *Thanks to our sponsors: St. Louis – Jefferson Solid Waste Management District, Missouri Department of Natural Resources, Missouri Environmental Improvement and Energy Resource Authority, and California-based Monrovia Growers. Look for recycling to begin again next May.*

WHAT TO DO IN YOUR GARDEN NOW…

photo by Heather Marie Osborn

all month

☐ Brush off heavy snow, but allow ice to melt naturally from plants. Prune damaged limbs promptly to prevent bark from tearing. Avoid salt or ice melters as these may injure plants; instead use sand, bird seed, sawdust, or vermiculite to gain traction on icy paths.

☐ Keep records of your garden. Inventory the plants and note past performance.

☐ Check fruit trees for evidence of rodent injury to bark. Use baits or traps where necessary.

☐ Avoid walking on frozen lawns as this may injure turf grasses.

☐ Some plants are sensitive to fluoride and chlorine in tap water. Water containers should stand overnight to allow these gases to dissipate and warm to room temperature.

☐ Wash the dust off of houseplant leaves to allow the leaves to gather light more efficiently.

☐ Fluffy, white mealy bugs on houseplants are easily killed by touching them with a cotton swab of rubbing alcohol.

☐ Insecticidal soap sprays can be safely applied to most houseplants for the control of many insect pests.

☐ Scrub heavily encrusted clay pots with a steel wool pad after they have soaked overnight in a solution consisting of 1 gallon of water and one cup each of white vinegar and bleach.

weeks 1–2

☐ Quarantine new plants to be sure they do not harbor any insect pests.

☐ If you didn't get your bulbs planted before the ground froze, plant them immediately in individual pots and place the pots in flats. Set them outside where it is cold and bury under thick blankets of leaves. Transplant them into the garden when weather permits.

week 3

☐ Set Amaryllis plants in a bright sunny window to allow the leaves to develop fully. Remove spent flowers. Keep the soil moist, not soggy. Fertilize occasionally with a general purpose houseplant formulation.

week 4

☐ Try sprouting a test sample of leftover seeds before ordering new seeds for spring. (Roll up 10 seeds in a damp paper towel. Keep moist and warm. Check for germination in a week. If fewer than half sprout, order fresh seed.)

For additional information on plant care and gardening:

- *visit the William T. Kemper Center for Home Gardening*
- *call the Horticultural Answer Service, Monday through Friday, 9 a.m. to noon, at (314) 577-5143*
- *check out the Gardening section at www.mobot.org.*

Member Plant Societies

Plant societies are the place to profess your horticultural devotion. Groups exist for fans of flowers from African violets to roses, and for specific garden types such as rock or water gardens. For the latest contact information on the Garden's plant society partners, visit www.mobot.org/plantsocieties.

photo by Charles Schmidt

all month

☐ Don't work garden soils if they are wet. Squeeze a handful of soil to form a ball. If it is sticky, allow the soil to dry further.

☐ Start onion seed indoors now.

☐ Inspect fruit trees for tent caterpillar egg masses. Eggs appear as dark brown or grey collars that encircle small twigs. Destroy by pruning or scratching off with your thumbnail.

☐ Water evergreens if the soil is dry and unfrozen.

☐ Take geranium cuttings now.

☐ To avoid injury to lawns, keep foot traffic to a minimum when soils are wet or frozen.

☐ Repot any rootbound houseplants before vigorous growth occurs. Choose a new container that is only 1–2 inches larger in diameter.

week 1

☐ Branches of pussy willow, quince, crabapple, forsythia, pear, and flowering cherry may be forced indoors. Place cut stems in a vase of water and change the water every four days.

week 2

☐ Start seeds of slow-growing annuals like ageratum, verbena, petunias, geraniums, coleus, impatiens, and salvia indoors.

☐ Maple sugaring time is here! Freezing nights and mild days make the sap flow.

☐ Fertilize houseplants only if they show signs of new growth.

week 3

☐ Sow celery and celeriac seeds indoors now.

☐ Prune fruit trees. Peaches and nectarines should be pruned just before they bloom. When pruning diseased branches, sterilize tools with a germicide spray between cuts. Dry your tools and rub lightly with oil to prevent rusting.

☐ Sow seeds of larkspur, sweet peas, shirley poppies, and snapdragons outdoors. For best bloom, these plants must sprout and begin growth well before warm weather arrives.

☐ Apply appropriate sprays for the control of lawn weeds such as chickweed and dandelion.

week 4

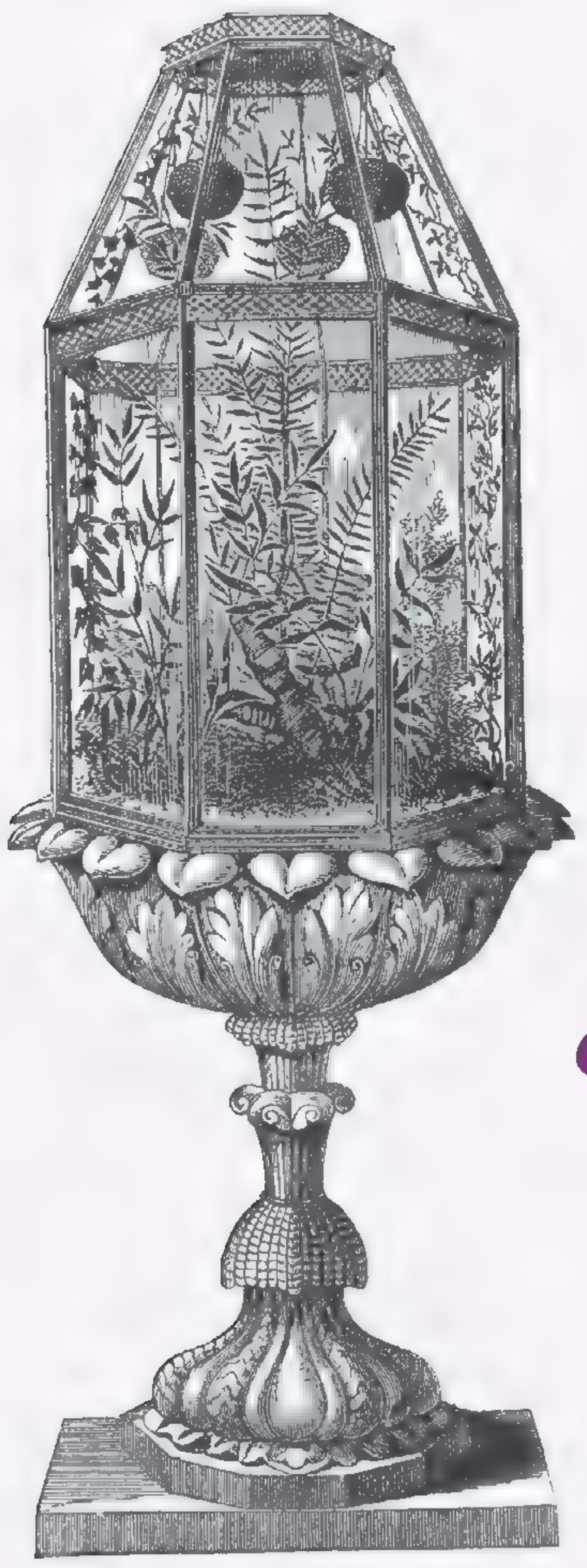
☐ Sow seeds of broccoli, brussels sprouts, cauliflower, and cabbage indoors for transplanting into the garden this spring. If soil conditions allow, take a chance sowing peas, lettuce, spinach, and radish. If the weather obliges, you will be rewarded with extra early harvests.

☐ Fertilize established fruit trees once frost leaves the ground. Use about ½ lb. of 12-12-12 per tree, per year of age, up to a maximum of 10 lbs. per tree. Broadcast fertilizers over the root zone staying at least a foot from the tree trunk.

☐ Dormant sprays can be applied to ornamental trees and shrubs on a mild day while temperatures are above freezing.

☐ Start tuberous begonias indoors now. "Nonstop" varieties perform well in this climate.

☐ Encourage birds to nest in your yard by providing water and by putting up bird houses. Planting suitable shrubs, trees, vines, and evergreens will provide wild food sources and nesting habitat.



Dr. Ward's Fabulous Case

The 180th Anniversary of the Invention of the Terrarium

From the Latin *terra*, or earth, a terrarium is simply an enclosed container in which living plants are grown and observed. In 1829, London surgeon Dr. Nathaniel Bagshaw Ward accidentally created a garden in a jar. A natural history hobbyist, Dr. Ward wanted to see an adult sphinx moth hatch from a chrysalis. He buried the cocoon in damp soil in a glass jar and covered the jar with a metal lid. Some grass and a fern sprouted from the soil. The plants thrived in the jar without additional water and no influx of fresh air. Ward hired some larger glass-enclosed containers built and set about testing them; he published his successes.

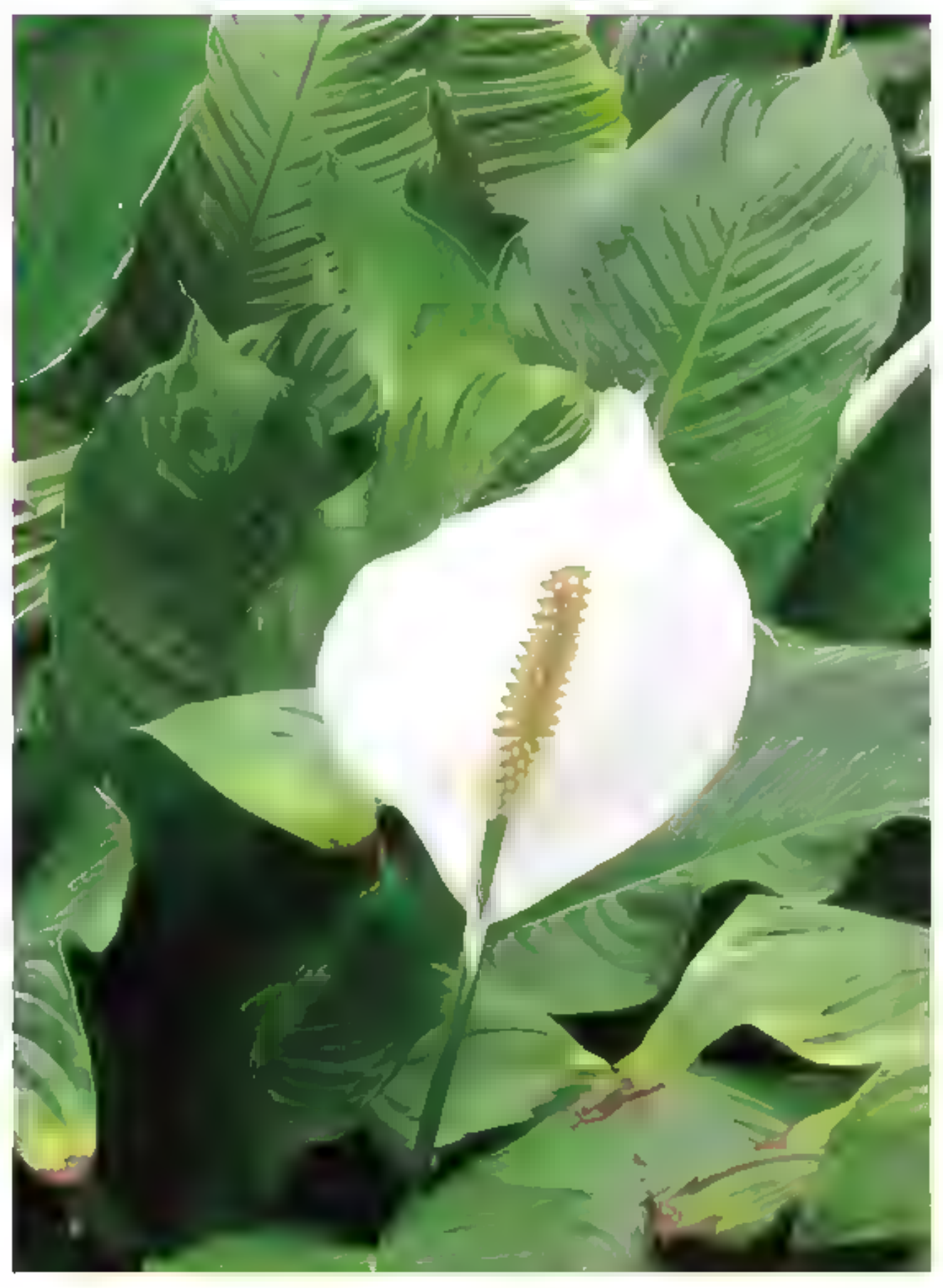
Wardian cases, as these planters were known, soon became features of stylish drawing rooms throughout Europe and the United States. In the polluted air of Victorian cities, the new cases made possible the craze for growing ferns and orchids that followed. Their development also opened up intercontinental plant trade, greatly aiding plant explorers and researchers, and thus contributing to the global selection of plant materials now available for the indoor gardener. Today, terrariums remain an effective method for maintaining delicate plant species as well.

> "So successful is the Wardian case that in 15 years' use, we have imported six times as many plants to Kew as had been imported in the previous century!"
>
> — Sir William Jackson Hooker, director of the Royal Botanic Gardens, Kew, 1841–1865

www.mobot.org/plantfinder: Glenn Kopp

Best Tropicals for Typical Terrariums

Aglaonema	Chinese evergreen
Chamaedorea elegans 'Bella'	Dwarf parlor palm
Dracaena godseffiana	Gold dust dracena
Philodendron	Sweetheart plant
Pittosporum	Japanese pittosporum
Sansevieria trifasciata 'Hahnii'	Snake plant
Scindapsus	Pothos
Spathiphyllum	Peace lily
Syngonium podophyllum	Arrowhead vine



www.mobot.org/plantfinder: John Smelser

photo from MBG Archives

Wardian Case boxes were used to pack plants for shipment from Australia to the Missouri Botanical Garden.

Build a Terrarium

Terrariums are easy to build—and make a fun indoor project for children on a winter's day.

Containers

An excellent opportunity for recycling, terrariums can be built in almost any type of clear glass container, so long as it holds moisture and transmits light: canning jars, aquarium tanks, brandy snifters, old light fixtures, curio cabinets. If the container does not come with a lid, a sheet of clear plastic or glass makes a suitable cover.

Soil

The growing media must be clean, well drained, and high in organic matter. Potting soils sold at garden shops work well.

Plants

Choose plants with similar requirements for water, light, and temperature, and that fit the size of the container. For the best tropicals for typical terrariums, see the list at left.

Assembly

Before adding materials, clean the container thoroughly with soap and water.

- Place a 1-inch layer of aquarium or pea gravel in the bottom. Top with a ½ inch layer of rinsed charcoal. Cover with sphagnum moss (or old nylon stockings) to prevent soil from sifting into the drainage area.

- Add 2 inches of potting soil. It should be slightly moist so that dust is not stirred up, but not so wet that it is muddy.

- Place the plants, large plants first. When planting, try to keep foliage from touching the sides of the container, as they will be more subject to rot. When all of the plants are in, tamp the soil. Keep the terrarium open a day or so until any water on the leaves dries.

Maintenance

Moisture is recycled in sealed terrariums, so they require only adequate light, temperature, and occasional misting. Mist the plants with distilled water (minerals in tap water can build up in the soil and leave residue). Condensation on the walls is normal, but if algae grows, leave the terrarium open for a day or two to allow extra moisture to evaporate.

Place the terrarium in a bright location with indirect sunlight. Turn occasionally. Remove any dead plants and leaves. Prune back excessive growth. Fertilizer is generally not necessary. A successful terrarium will grow on its own for several years. ꩜

Did you know?

Terrariums can be used as a naturalistic environment for keeping small reptiles and amphibians, much like an aquarium is used for keeping fish. This type of modified terrarium is called a "vivarium."

Nature's Pharmacopeia

Plants Have the Power to Heal, but First We Must Preserve Them

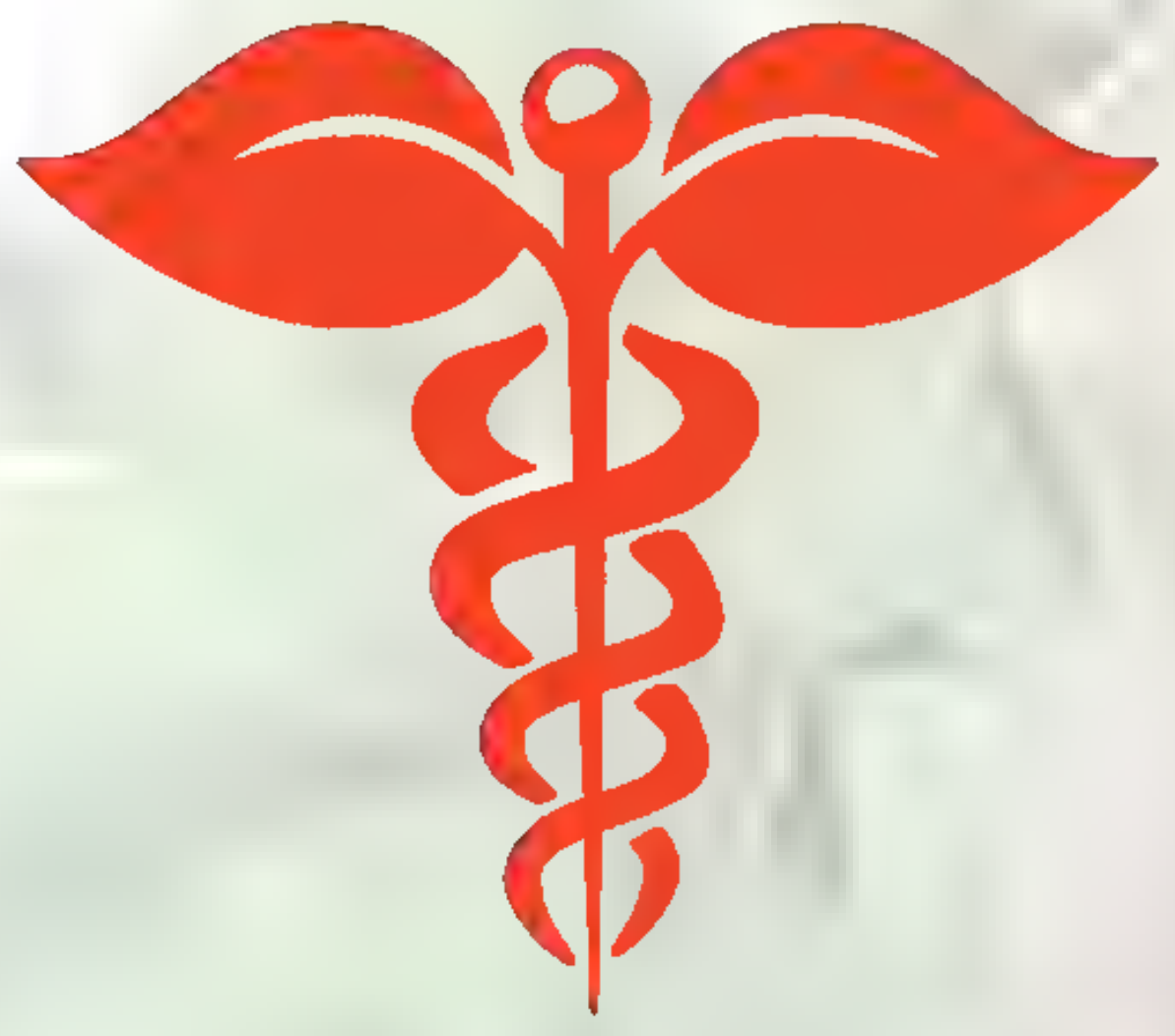
By Dr. Wendy Applequist, Assistant Curator of Medicinal Botany

Garden founder Henry Shaw believed that botanical gardens, in addition to providing recreational, educational, and aesthetic benefits, should expand and apply knowledge about the natural world. For 150 years, the Garden has maintained Shaw's emphasis on research and conservation, especially the foundational work of discovering, classifying, and naming plants. It is the first step toward discovering new medicines.

What's in a name? Quite a lot, if you want to be certain you have the correct plant for a medicine or food, or determine if a species is endangered. For the 300,000 plant species estimated to exist, there are over 1.2 million names! This proliferation of names causes widespread confusion. Worse, it is estimated that tens of thousands of species remain without names, completely unknown to science. Without scientific documentation, plants are unlikely to be analyzed for medicinal or other useful properties, and they are unlikely to be included in conservation plans for the future, so are more susceptible to extinction.

MEDICINAL PLANTS AND DRUG DISCOVERY

For most of human history, plants and a few fungi were the only medicines. People discovered medicinal plants just as they discovered edible and poisonous plants: by trial and error; that is, by tasting them to see what happened! Local medicine chests have been developed over centuries of use and experimentation. Plant-based medicines are often



Look for this symbol on signs in the Climatron to indicate a medicinal plant.

In summer 2009, look for these symbols outdoors as well.

STUDENTS, TEACHERS

Learn more about medicinal plants through the Power of Plants contest. Visit the Garden's website for more details.

www.mobot.org/power

> "Twenty-five percent of our prescription medicines derive from plants. We must protect plant biodiversity to ensure the discovery of new medicines in the future."
>
> *–curator Dr. Wendy Applequist*

less potent than modern drugs, but studies prove many to have real value. However, a few are so toxic that they may do more harm than good. Because research facilities are limited, most locally used plants have never been studied at all. Over four billion people in developing countries rely on these traditional medicines. They often cannot be sure whether a medicine is safe or effective.

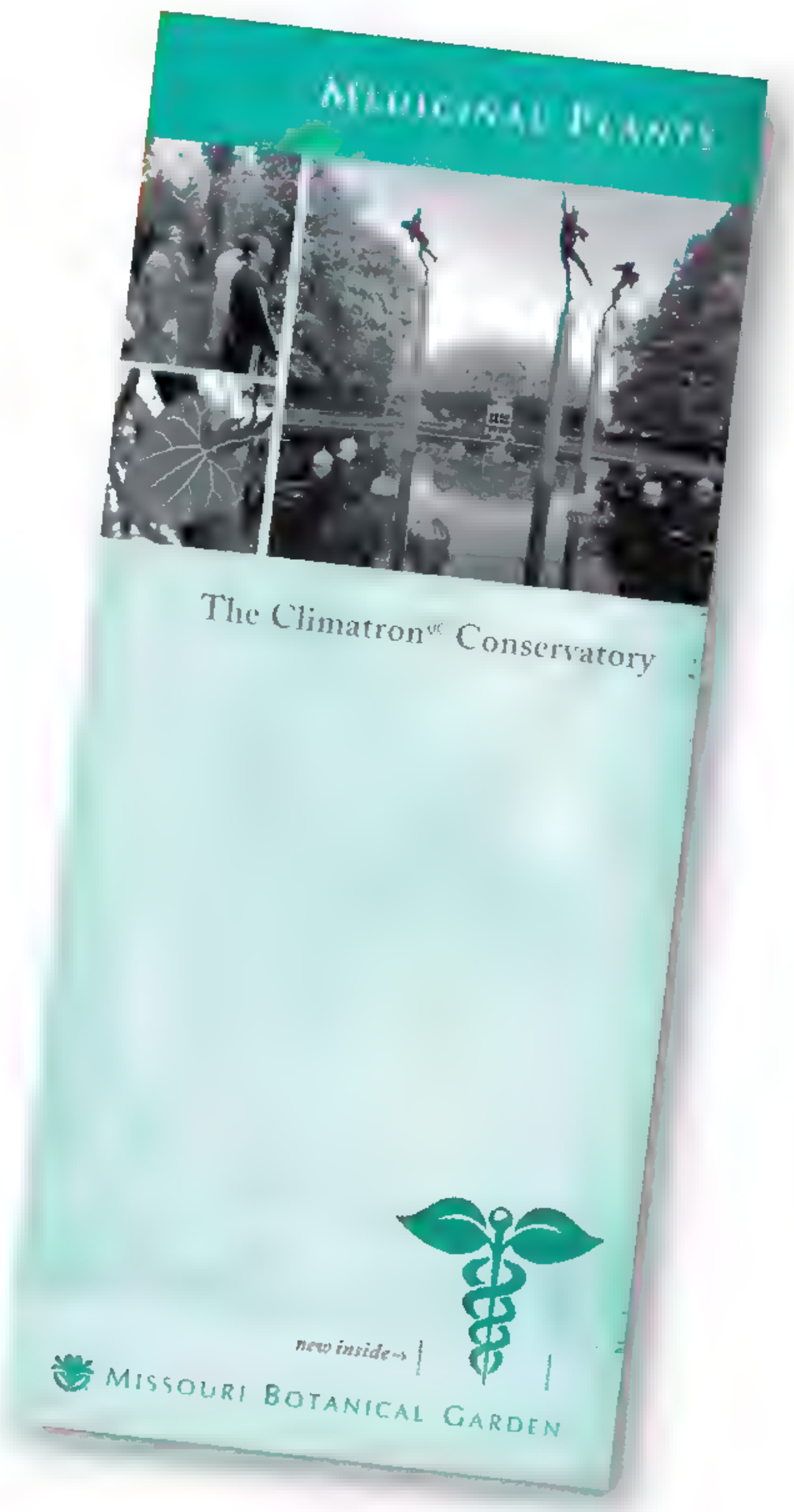
Many modern drugs are derived from complex molecules in plants, fungi, and bacteria. Some are chemically altered to make them stronger. Sometimes, the drugs can be made synthetically. Drugs cannot be made before the natural compounds have been discovered, however. For many years, the Garden has provided plants for natural product discovery programs, which search for compounds that might become drugs.

Medicinal plants are especially likely to contain useful molecules. For example, goat's rue *(Galega officinalis)* is traditionally used for diabetes. The diabetes drug metformin was derived from a compound in goat's rue. Other common drugs derived from plants include aspirin, codeine, and digitalis. Drugs allow more precise dosing than plants, so drugs made from poisonous plants (such as foxglove, the source of digitalis) are safer than using the plants themselves. Some useful botanical medicines cannot readily be made into drugs. Other plants contain molecules that only become useful as drugs. For example, cancer drugs like vincristine and topotecan come from plants that don't cure cancer. We cannot know in advance which species could provide lifesaving drugs.

It is estimated that half of the plant species in nature could be extinct by the end of the century. Whenever a species goes extinct, we might be losing a cure for cancer or AIDS.

THE CLIMATRON MEDICINAL PLANT TOUR

Visitors to the Climatron in winter can enjoy 85-degree temperatures and delightful humidity as they stroll through a tropical rain forest. Now, they can also learn about the many medicinal applications of tropical plants as well! Tropical plants account for 160,000 of the earth's estimated 300,000 species of plants, yet less than 2 percent have been tested for medical applications. Pick up a brochure at the entrance and learn about 13 plants that are now being studied because of their role in traditional medicine. Or visit the Garden's website, www.mobot.org, to take the tour online.



YOU CAN HELP

Plants provide humankind with our most basic resources—food, fiber, medicine, and many other useful products. Your membership helps fund the Garden's conservation programs around the world. The Missouri Botanical Garden's William L. Brown Center for Plant Genetic Resources is dedicated to the study, description, and conservation of useful plants—and to preserving traditional knowledge about these plants for a sustainable future. Learn more at www.wlbcenter.org. To support the Garden's medicinal botany program, call the Institutional Advancement office at (314) 577-9495, or visit www.mobot.org. Click on "donate."

Left: Banyan, Ficus benghalensis, *bark lowers blood sugar and is used to treat diabetes.*

photo by Heather Marie Osborn

Instructors and SAGE program volunteers provide drop-in educational fun in the Doris I. Schnuck Children's Garden.

GROW WITH THE GARDEN

From Early Childhood to Sassy Seniors, Educational Fun for All at the Garden

As Jessica Kester, Supervisor of Youth and Family Programs, gives directions to her students for their morning Garden walk, one busy little five-year-old is not listening. "I won't get lost," he says. "I've been coming here all my life. The Garden is like my yard." Imagine growing up at the Missouri Botanical Garden so it becomes as familiar as your own backyard!

It's never too late to grow with the Garden. As you spend chilly winter evenings browsing seed catalogs and envisioning your home garden, take a moment to plan visits to the Missouri Botanical Garden in the coming year for yourself, your family, and friends.

> "I've been coming here all my life. The Garden is like my yard."

Have a pre-schooler that loves being outdoors? Help them get to know the Garden through early childhood classes: **Little Sprouts** (ages 2–3) and **Garden Buds** (ages 4–5). Children and their grown-ups learn together about plants, animals, and habitats, and enjoy guided Garden walks together. **Oaks and Acorns** is designed especially for seniors and their favorite 6–12 year old to share a botanical project together. For summertime fun and adventure, check out **Pitzman Nature Study** and **Camp MBG** for children up to grade five.

Does your family's hectic schedule prevent you from committing to a class in advance? Then simply drop in on the third Saturday of each month for **Great Green Adventures**. Garden staff lead families in interactive, seasonal fun as you explore different areas of the Garden. The **Doris I. Schnuck Children's Garden** is open every day from April 1 through October 31. Stop by to see how we've grown! Garden staff are stationed throughout the Children's Garden to enhance your visit. Learn about edible plants, the power of pollination, the importance of trees, wetland wildlife, and more. Each visit promises a new experience!

photo by Jennifer Wolff

For high school students, the Garden offers enrichment with opportunities for leadership. If your teen needs service hours, consider the **SAGE** Program. These "Students as Garden Educators" help educate the youngest visitors to the Children's Garden through fun nature activities. The Garden's **ECO-ACT** program is a one-of-a-kind opportunity for St. Louis–area high school students to learn about ecology and environmental issues as they teach younger students. Participants also develop outdoor skills while caving, canoeing, and rock climbing.

Want to expand your mind and skills and perhaps introduce yourself to something new? Here's a chance, too, to make plans with a friend. From cooking, photography, and floral design to specialized gardening, landscape planning, and nature study, the Garden's **Adult Education** classes have something for everyone.

CILANTRO
CARROTS
ONIONS

photo by Jessica Kester

A participant in the Garden Kids program plants vegetable seeds and watches them grow.

And for our senior citizens, especially those with limited abilities and resources, the Garden is a special place where you can reconnect with the natural world. Classes through our **Horticulture for Health and Well-Being** programs offer fun, therapeutic activities focused on plants and gardening. If you have extra energy and want to get your hands dirty, join the **Soule Scent-sational Senior Group** and gain hands-on horticultural knowledge as you assist staff in the Zimmerman Scented Garden from May through September.

photo by Jennifer Smith

Two volunteers for the Soule Scent-sational Seniors program tend the Zimmerman Scented Garden.

As seedlings in the Garden grow to saplings and mature into wise old oaks, the Garden offers programs and activities to nurture the minds and bodies of tots to teens to retirees. We invite you to enrich your life by making the Missouri Botanical Garden an extension of your own backyard!

get growing!

GET GROWING

Look for your *Get Growing* catalog in mid-February featuring great learning opportunities at all Garden sites. To explore all the opportunities awaiting you and your family, visit the Garden online at www.mobot.org.

Butterfly House

15193 Olive Blvd., Chesterfield, MO 63017
(636) 530-0076 • www.butterflyhouse.org

The Butterfly House will be closed January 3–6 for annual Conservatory maintenance.

Only AZA Butterfly House in the Nation

In September, the Association of Zoos & Aquariums (AZA) announced its re-accreditation of the Sophia M. Sachs Butterfly House in Chesterfield through the year 2013. The Butterfly House is the only facility in the world dedicated entirely to insects and arachnids to achieve AZA accreditation.

"The Butterfly House was granted AZA accreditation because it meets high standards in every aspect of its operations," said AZA President and CEO Jim Maddy. "St. Louis should be proud to have one of the top zoos (the Butterfly House) in North America as a valuable community asset."

"We are honored to receive this important acclamation from the AZA," said Butterfly House Director Joe Norton. "We are also proud of the fact that the Butterfly House offers a unique zoological experience learning about and observing plant and animal relationships in the environment, with a focus on the largest group of animals on the planet—the insects."

To be accredited by the AZA's independent Accreditation Commission, the Butterfly House underwent a thorough investigation to ensure it has and will continue to meet ever-rising standards of animal care, veterinary programs, conservation, education, and safety. The AZA requires zoos and aquariums to successfully complete this rigorous accreditation process in order to be members of the Association. Institutions are required to resubmit to this process every five years.

"Visiting the Butterfly House is more than a great day out with the family," said Maddy. "It's an opportunity to connect with nature. And, every visit you make to an accredited zoo or aquarium supports wildlife conservation."

ACCREDITED BY THE
ASSOCIATION
OF ZOOS &
AQUARIUMS

Sophia M. Sachs Butterfly House, the only AZA-accredited butterfly house in the nation.

Events and Classes

Hot, Hot, Hot

Saturday–Sunday, Jan. 24–25, 11 a.m. to 2 p.m.

Shed your scarf, cast off your coat, and say goodbye to your gloves at the sixth annual "Hot, Hot, Hot" family fun weekend. Listen to live steel drum music, stroll inside the 85-degree tropical conservatory, build sandcastles in the toddler sandbox, and enjoy games and crafts sure to shake off winter's chill. Included with Butterfly House admission.

Camp Bugaloo

Explore the seasons with a preschooler through favorite books and activities for ages two to four with a parent or guardian. Select one date per month. $18 per class ($16 for Garden members). Pre-registration required; (636) 530-0076, ext. 13.

topic: Autumn | *Friday, January 9, 10:30 a.m. to noon;*
Sunday, January 11, 12:30 to 2 p.m.
topic: Winter | *Friday, February 13, 10:30 a.m. to noon;*
Sunday, February 15, 12:30 to 2 p.m.

EarthWays Center

3617 Grandel Square, St. Louis, MO 63108
phone (314) 577-0220 • www.earthwayscenter.org

Learn Green – Live Green

Classes and Tours

Adult classes at the EarthWays Center cover the "how and why" of everyday sustainability in hands-on workshops. Upcoming classes range from backyard chickens to sustainability 101. Visit www.earthwayscenter.org to learn more. Take a tour of the EarthWays Center the third weekend of the month. Upcoming dates: January 17-18, February 21-22.

Updating Your TV? Do It Right!

Americans own more than 500 million TVs. Recycle yours responsibly.

Television is about to go digital. After February 17, 2009 if you don't have cable and your television relies on antennas for reception, you will need to take action. If you're one of the millions of Americans expected to upgrade or update your TV, make sure you follow the best sustainable practices.

Considering buying a new television? Think before you just throw out your old one. TVs contain toxic materials, like lead, cadmium, and beryllium, that don't belong in the landfill. While it might be legal to throw a TV in the trash, it's not an environmentally sound practice because toxic chemicals could leach into groundwater. Consumer electronics are responsible for up to 40 percent of the lead found in landfills.

If your older analog TV is in fine working order, consider buying a digital-to-analog converter box instead. Coupons for $40, about the cost of the converter, are available at www.dtv.gov. If you decide to purchase a new television, be sure to recycle your old one with a responsible recycler, for which there is typically a small fee. Electronics recyclers of dubious reputation may just export your old TV to a developing country where the environmental laws are less stringent. To find a responsible recycler near you, visit www.ecyclemo.org.

photo by Kevin Wolf

SHAW NATURE RESERVE

Hwy. 100 & 44 (exit 253), Gray Summit, MO 63039
phone: (636) 451-3512 • www.shawnature.org

Classes and Events

Adult classes at the Shaw Nature Reserve feature horticulture, arts, and crafts in a beautiful natural setting. Hands-on workshops and discussion forums are led by resourceful staff, often featuring local experts as guest presenters. Upcoming classes include basket- and soap-making, as well as family overnights. Visit www.shawnature.org to learn more.

Native Plant School

Once a month on Thursdays throughout the year, plant experts discuss blooming, planting, identification, and maintenance of native plants and landscaping. 1 to 4 p.m. $12 ($8 for Garden members). Registration required; call (636) 451-3512, extension 0.

January 8 | Control and ID of Invasive Woody Plants
February 12 | Native Landscape: Plan and Design

photo by Heather Marie Osborn

Brisk sunny days in winter allow excellent wildlife watching.

Visit this Winter

The bare woods of winter murmur and tap with chickadees and woodpeckers, while the prairie rustles and chirps as the sparrows and juncos scratch for seeds and flutter through the tall grass. This is a good time to observe hawks and is when owls are most likely to be active during the day. The end of February brings the first woodland wildflowers, including the native harbinger-of-spring and naturalized Eurasian snowdrops.

photo by Laszlo Ilyes

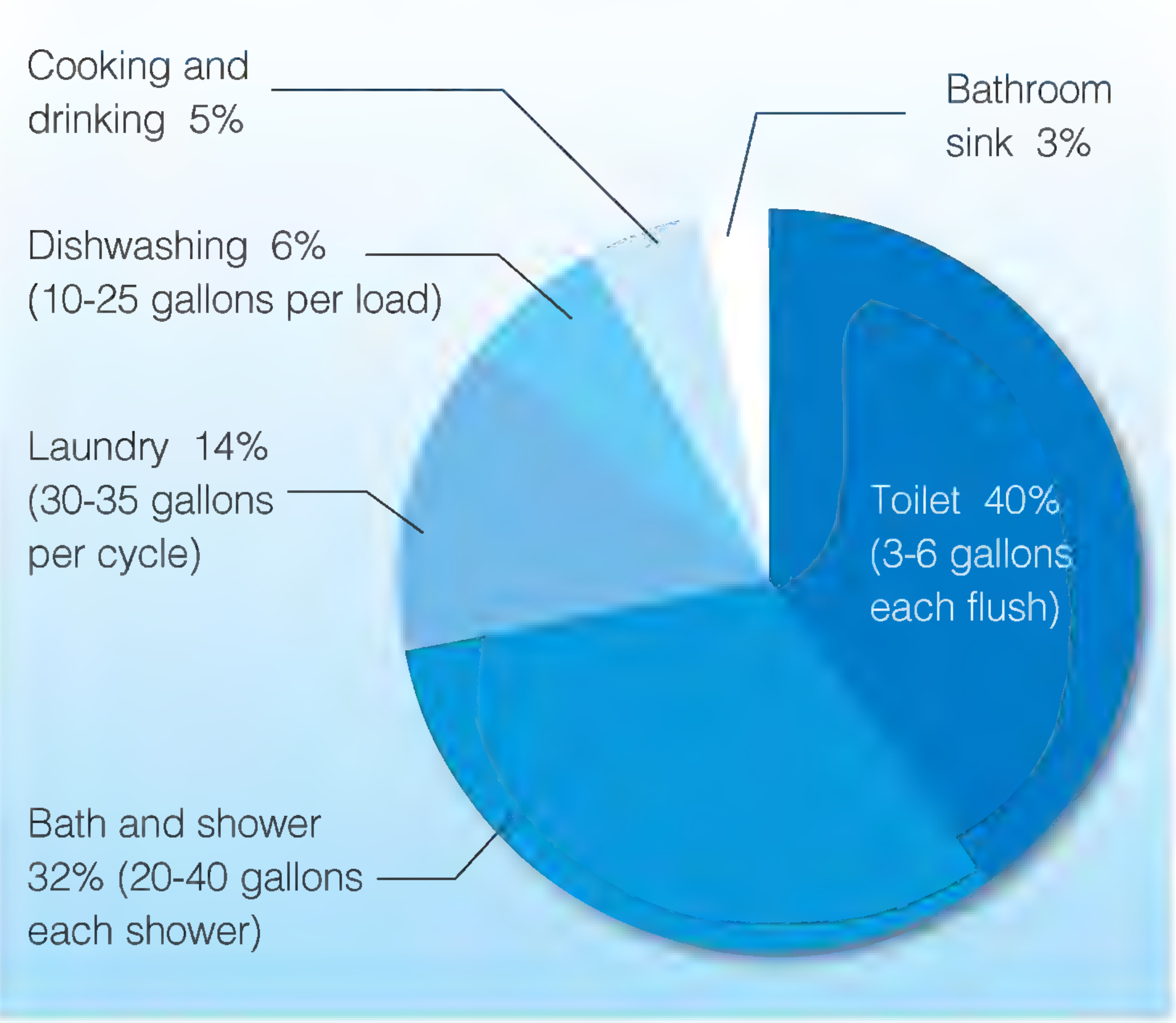
Water Best Practices

"All water has a perfect memory and is forever trying to get back to where it was."

– Toni Morrison

Water is life. All living organisms are predominantly made of water: human beings about 60 percent and plants between 80 and 90 percent. There is the same amount of water on Earth today as there was 3 billion years ago, and only 1% of Earth's water is available for human consumption. The population explosion of the 20th century, combined with the increasingly erratic weather associated with global climate change, has led to droughts, disasters, and shortages around the world. While St. Louisans currently do not have to worry about a water shortage, it is important to remember that water is a limited resource. Why not make a New Year's resolution to conserve water now, so that you can help to avoid water shortages in the future?

Average St. Louis Household Water Use



Information provided by City of St. Louis Water Division

Good Water Stewardship

The average citizen uses nearly 100 gallons of water a day, the majority in four areas of the home listed below. Challenge yourself to make one or two changes in each area.

Bathroom

1. Use a low-flow toilet. If you have an old one, place a 2-liter bottle filled with gravel in the tank.
2. Flush only when necessary. Newer models have a "light flush" feature for liquids.
3. Install a low-flow shower head.
4. Buy a shower timer and use it.
5. Turn off the water when brushing your teeth.

Kitchen

1. Install an aerator in the faucet.
2. Upgrade to an Energy Star dishwasher and run it only when full.
3. If washing dishes by hand, don't keep the water running. Use a dishpan instead.
4. Compost food waste instead of running the garbage disposal.

Laundry

1. Consider a new Energy Star washer—they use an average of 30 percent less water.
2. Washing only full loads can save up to 1,000 gallons of water a month.

Outdoors

1. Plant native plants and shrubs which require less watering.
2. Use mulch in the garden and around shrubs and trees to save moisture.
3. Install a rainwater barrel for watering the garden.
4. Water slowly early in the morning to reduce evaporation.
5. Use a broom to clean sidewalks and driveways instead of a hose.
6. Consider installing a trendy new raingarden. These gardens capture rainfall so it doesn't run off paved surfaces.

Resources

City of St. Louis Water Division | www.stlwater.com

Water Use It Wisely | www.wateruseitwisely.com

World Water Council | www.worldwatercouncil.org

EarthWays Center | www.earthways.org
Tour the Garden's EarthWays Center to learn more about water saving strategies.

Ditch the Bottled Water!

Washington University in St. Louis recently banned bottled water sales on campus as part of a sustainability initiative. While costing dramatically more, most bottled water is just tap water. Worse, 90 percent of plastic bottles are not recycled and end up in landfills. Burning fossil fuels to ship heavy liquids around the country is wasteful when safe, healthy drinking water is close at hand. Not just safe—but delicious! A 2007 blind taste test by the U.S. Conference of Mayors ranked city of St. Louis drinking water the "best tasting in the country." In honor of the Garden's 150th anniversary, purchase a "green for 150 years" refillable steel bottle in the Garden Gate Shop. Bring it with you to the Garden, where you can refill it in any one of dozens of convenient drinking fountains.

green since
1859
Missouri
Botanical
Garden

Stainless steel refillable bottles are the future.

photo by Erin Whitson

Tributes

August through October 2008

A tribute gift to the Garden is a wonderful way to honor family and friends. Tributes of $25 and up are listed in the *Bulletin*. If you have questions regarding giving opportunities at the Garden, please call (314) 577-5118. You can also make a tribute gift online at our website, www.mobot.org.

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photo by Heather Arora

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By leaving a bequest to the Garden, you create a legacy that will benefit others for generations to come. If you have already included the Garden in your estate plans, we hope that you will share this information with us. We would like to express our gratitude and welcome you into the Heritage Society. Of course, your wishes for anonymity are respected. Please call (314) 577-9495 for further information, or visit our website at www.mobot.org. Click on Donate, then Planned Giving.

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★ *deceased*

Members' Entry Court

Bricks from August through October 2008.

Engraved clay bricks and signature bronze bricks are a wonderful way to commemorate any special occasion, as well as final memorials. For additional information regarding the Garden's brick program, please contact the Institutional Advancement Office at (314) 577-0874 or visit www.mobot.org.

Signature Bronze Bricks

Cathe Christoe
Mr. and Mrs. Patrick McElroy

Lucy McReynolds
Tom McReynolds
Friends and Family of Tom and Lucy McReynolds

Frederick Lee Torizzo
Mr. Carl J. Torizzo

Engraved Clay Bricks

Cordelia Askins
Mr. Steven J. Stroup

Florence R. Hoberg
Mrs. Karen Becker

Barbara Mack
James S. Miller
Missouri Botanical Garden

Jim and Betty Massey
Mr. and Mrs. James Massey

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Steven Suess, Principal
Mr. and Mrs. Steven C. Suess

Marie Soell Taylor
Ms. Sandy Stringer

John D. Tyler
Mr. Thomas A. Tyler

Sophia M. Sachs
Butterfly House Tributes & Pavers

To learn more about these opportunities, call (314) 577-0291 or www.butterflyhouse.org.

Tributes and Pavers dedicated at the Sophia M. Sachs Butterfly House in August through October 2008

Tributes

In Honor of

Ms. Marci Eisen
Ms. Helen Van Derhyden

Ms. Betty Manlin
Ms. Jackie Juras

Mrs. Mimi Rennard
Mr. and Mrs. Herbert M. Talcoff

Sophia M. Sachs Butterfly House
Mr. William B. Wind

In Memory of

Mr. Sidney J. Franklin
Dr. and Mrs. Jules M. Snitzer

Mrs. Mildred Krebeck
Mr. Kent W. Krebeck

Ms. Genevieve T. Rush
Mr. John W. Brewer
Mrs. Jean M. Casteel
Mrs. Mary A. Dodge
Ms. Jackie Juras
Dr. and Mrs. William S. Knowles
Mr. Lawrence H. Mirkes
Ms. Dorothy B. Rasmussen
Ms. Betty W. Schilling
Ms. Barbara Whiteside

Pavers

Don Counts
Mrs. June C. Bartley

Heather and Greg Grant
Mrs. Sandra S. Grant

Jane O. Risk and Richard T. Risk
Mr. Robert B. Risk

Dave Stauffer
Mr. and Mrs. Kenneth Knight

S. John Bono
Ms. Judy Bratkowski

Baby, it's cold outside...

Nothing beats coming to the Garden to shop! But now on those cold winter days and nights when you just want to stay indoors, you can shop online at www.gardengateshop.org. Questions or comments, call us at (314) 577-0865.

GARDEN GATE SHOP.ORG

All proceeds benefit the Missouri Botanical Garden.

January Events

Visit www.mobot.org for the latest information.

photo by Brian Mueller

Orchid Show 2009

Henry's Garden

January 31 through March 15 | admission: $3 (free for members)

Experience the color, beauty, and fragrance of orchids in bloom in the middle of winter at the 2009 orchid show. "Henry's Garden" celebrates the Garden's 150th anniversary and will feature over 800 orchids from the Garden's world-renowned collection displayed in a formal Victorian setting. Last year's relatively cool and rainy summer means that visitors may enjoy seeing some orchids they have not seen in the show recently, as several species are blooming later than usual.

Use your cell phone to access the free audio tour and you'll hear intriguing stories about orchid lore and history and learn how to care for your own plants (call is free, but minutes apply). You can also download a podcast of the audio tour to your MP3 player ahead of time by visiting the Garden's website, www.mobot.org.
With material support by World Outdoor Emporium in St. Charles, Missouri.

Members' Evening ✿ | *Friday, January 30, 5 to 8 p.m., Ridgway Center*
Don't miss this magical, members-only evening viewing of the orchid show with musical entertainment, cash bar, Sassafras dinner buffet ($17.95 per person), and discount shopping in the Garden Gate Shop. Reservations are not required.

photo from MBG Archives

History as We Know It… Celebrating 150 Years! ✿

Wednesday, January 14, 11 a.m., Shoenberg Theater
Join us for the first Members' Day of 2009 as we kick off the Garden's sesquicentennial celebration. (See pages 8–9 for full anniversary details!) Garden archivist Andrew Colligan and the Director of Tower Grove Park, John Karel, will share the fascinating history of Shaw's twin legacies, the Garden and the Park.

☺ = fun for families
✿ = members' event

clip and save

2009 Members' Days and Events

Every month Garden members enjoy special events, tours, and lectures by experts. Visit **www.mobot.org/members** to read all the details. Join us in 2009!

Wed., Jan. 14	"Celebrating 150 Years of History" with Andrew Colligan and John Karel
Fri., Jan. 30	Orchid Show Preview Evening
Sat., Feb. 14	Valentine's Dinner Dance
Wed., Mar. 11	March Morpho Mania™ (BH) ☺
Thurs., Mar. 19	Container Gardening
Sat., Mar. 21	New Member Orientation
Sat., Apr. 4	Eggstravaganza ☺
Wed., Apr. 15	"Beautiful Bulbs" with Jason Delaney
Fri., Apr. 24	"Native Plants" (SNR)
Fri., May 15	"Plants of Merit" with Chris Nejelski
Wed., May 27	Rose Evening
Fri., Jun. 5	Members' Musical Evening
Wed., Jun. 17	"Looking Back: A Tour of the Victorian District"
Sat., Jun. 27	Midsummer Night's Dinner Dance
Wed., Jul. 8	Members' Day (BH)
Fri., Jul. 10	Members' Family Picnic ☺
Wed., Aug. 5	"The Art of Pruning" with Ben Chu
Sat., Aug. 22	New Member Orientation
Wed., Aug. 26	"Cooking with Herbs"
Sun., Sept. 13	Grandparents' Day ☺
Sun., Oct. 25	Ghouls in the Garden ☺
Wed., Nov. 4	Holiday Decorating
Wed., Dec. 2	Gardenland Express Members' Evening ☺
Sat., Dec. 5	Breakfast with Santa ☺
Sat., Dec. 12	Members' Holiday Concert

☺ = fun for families.

On members' days and events, members enjoy discounts of 10 percent in Sassafras and 20 percent in the Garden Gate Shop and Little Shop Around the Corner.

Calendar subject to change.

January 2009

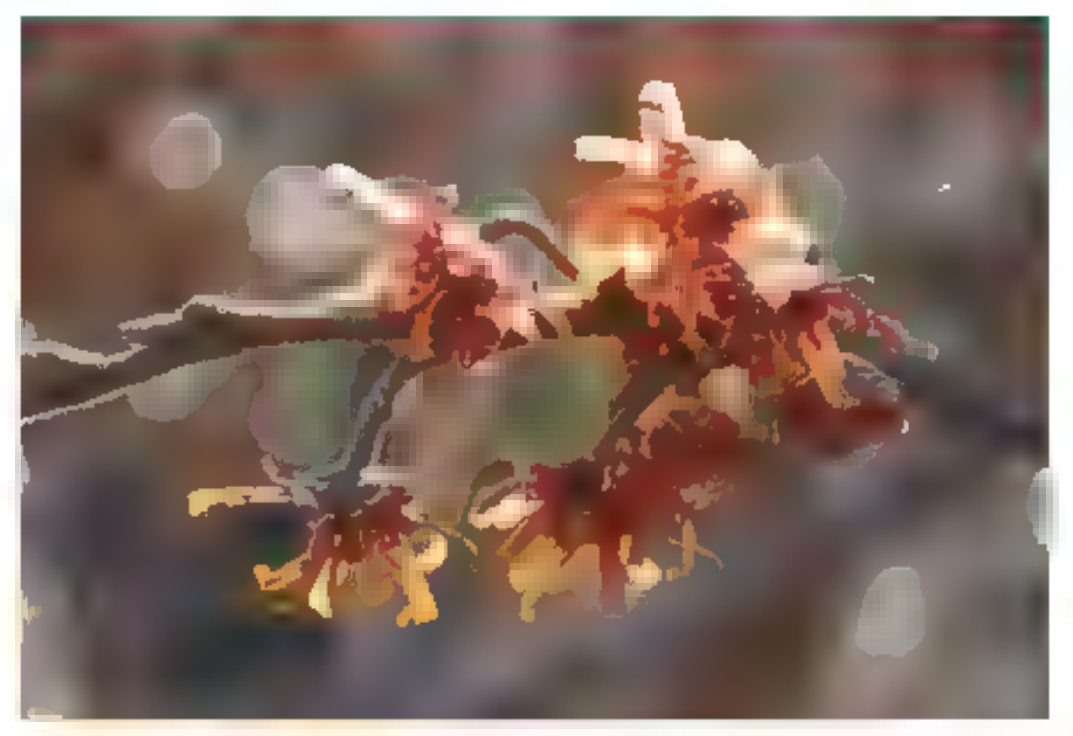
average temperature: low 21.2°, high 37.9°
average monthly precipitation: 2.14 in.

What's in bloom?

download the podcast at www.gardeninghelp.org

camellias

fragrant olive trees


ozark witchhazel

berries

snowdrops

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Seasonal Notices The Garden Gate Shop is closed January 12–16 and 20–23 for inventory and cleaning. Sassafras restaurant is closed January 1–17 for cleaning. Tower Grove House is closed January through March. The Little Shop Around the Corner is closed in January. Children's Garden, Terrace Café, and trams resume seasonal operation in April. The Butterfly House will be closed February 3–6 for annual Conservatory maintenance.			01 New Year's Day Sassafras closed.	02 Sassafras closed.	03 Winter Wonders. 10:30 a.m. to noon. BH $ ☎ Sassafras closed.
04 Last day! Gardenland Express Sassafras closed.	05 Sassafras closed.	06 Sassafras closed.	07 Sassafras closed.	08 Native Plant School: Control of Invasive Woody Plants. 1 to 4 p.m. SNR $ ☎ Sassafras closed.	09 Orchid photographs by Charles Rowden through Mar. 29. Camp Bugaloo: Autumn. 10:30 to noon. BH $ ☎ Sassafras closed.	10 Sassafras closed.
11 Camp Bugaloo: Autumn. 12:30 to 2 p.m. BH $ ☎ Sassafras closed.	12 Garden Gate Shop closed. Sassafras closed.	13 Garden Gate Shop closed. Sassafras closed.	14 ✿ Members' Event: Celebrating 150 Years of History. 11 a.m. ST Garden Gate Shop closed. Sassafras closed.	15 Science Café: Medicinal Plants by Dr. Rainer Bussmann, 6:30 to 9 p.m. Location TBD. "Home Plate: Backyard Chickens" class. 7 to 9 p.m. EWC $ ☎ Garden Gate Shop closed. Sassafras closed.	16 Garden Gate Shop closed. Sassafras closed.	17 Public Tour Days, EWC Sassafras closed.
18 Public Tour Days, EWC	19 Martin Luther King, Jr. Day	20 "Improving Energy & Comfort at Home" class. 6:30 to 8 p.m. EWC $ ☎ Garden Gate Shop closed.	21 Garden Gate Shop closed.	22 Garden Gate Shop closed.	23 Garden Gate Shop closed.	24 "Hot, Hot, Hot!" event. 11 a.m. to 2 p.m. BH
25 "Hot, Hot, Hot!" event. 11 a.m. to 2 p.m. BH	26 Chinese New Year	27	28	29	30 ✿ Members' Event: Orchid Show Preview evening. 5 to 8 p.m.	31 Orchid Show 2009 "Henry's Garden" opens!

photos by Cindy Lancaster, Jennifer Meinhardt, Josh Monken, Leslie Wallace, and www.mobot.org/plantfinder

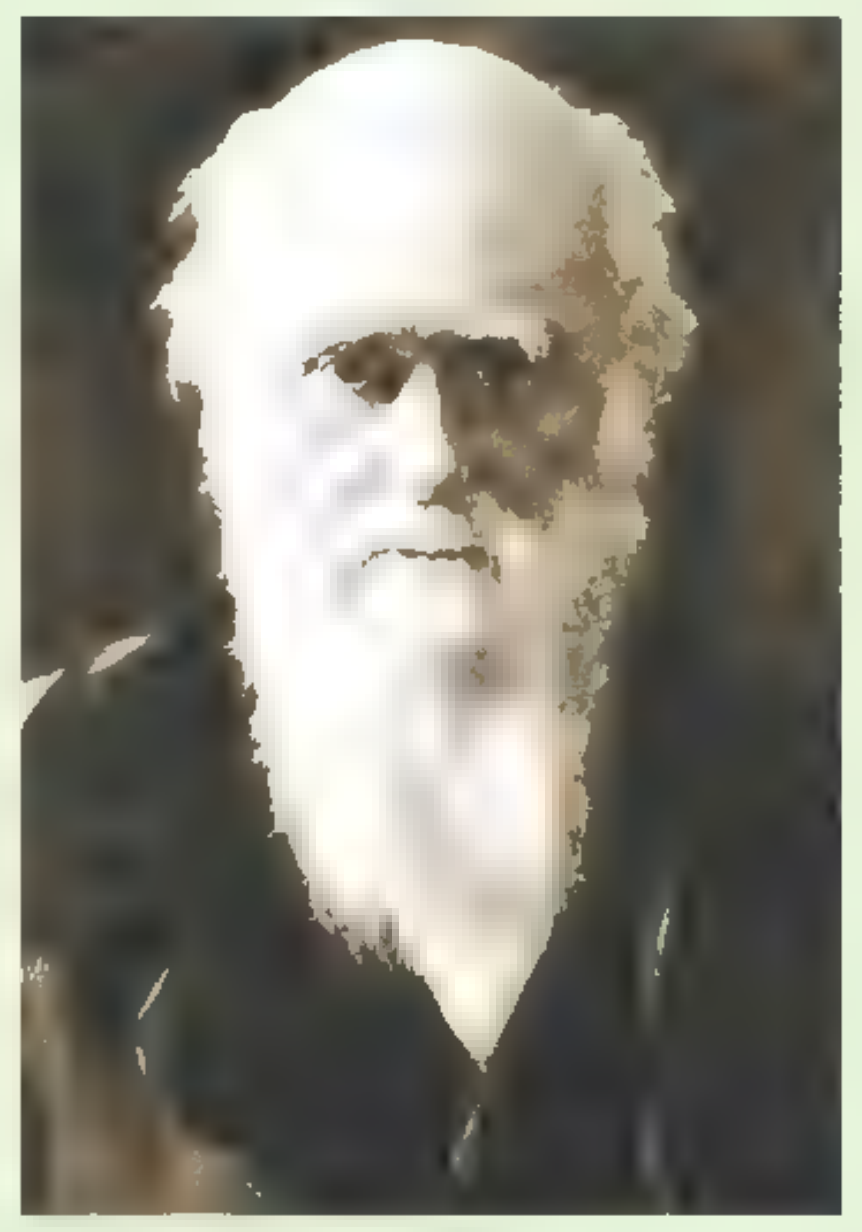
February Events

Visit www.mobot.org for the latest information.

photo by Leslie Wallace

Celebrate the Gospel

Sunday, February 8, 3 p.m., Shoenberg Theater
Celebrate Black History month with a heart-felt expression of African-American culture: gospel singing. In the 20th year of this event at the Garden, featured singer Mardra Thomas has designed a special program to honor the historic election of our first African-American president, Barack Obama. From traditional spirituals to contemporary gospel songs, this concert will herald this remarkable achievement in our American heritage. Seating is first come, first served.



Happy Birthday, Darwin!

Thursday, February 12, 7 p.m., Shoenberg Theater
To celebrate Darwin's birthday on February 12, the Garden hosts three professors from Washington University and the University of Missouri–St. Louis. Topics include genetics and human evolution, birds of the Galapagos Islands, and evolution and religious naturalism. The lecture is free to the public (the Garden is not open). A reception follows. For presenter bios, visit the Garden's website, www.mobot.org

☺ = fun for families
✿ = members' event

Backyard Bird Festival ☺

Saturday, February 7, 7:30 a.m. to 1 p.m., Garden grounds
Bundle up and bring your binoculars for a bird-watching bonanza! Adults and children of all ages can brush up on their birding skills with guided walks, identification tips, live exhibits, and informative classes for beginners to advanced birders. Price $15 ($18 nonmembers). Pre-registration required; call (314) 577-9506 or visit www.mobot.org/education.

Members' Event: Valentine's Dinner Dance ✿

Saturday, February 14, 6:30 to 10 p.m., Ridgway Visitor Center

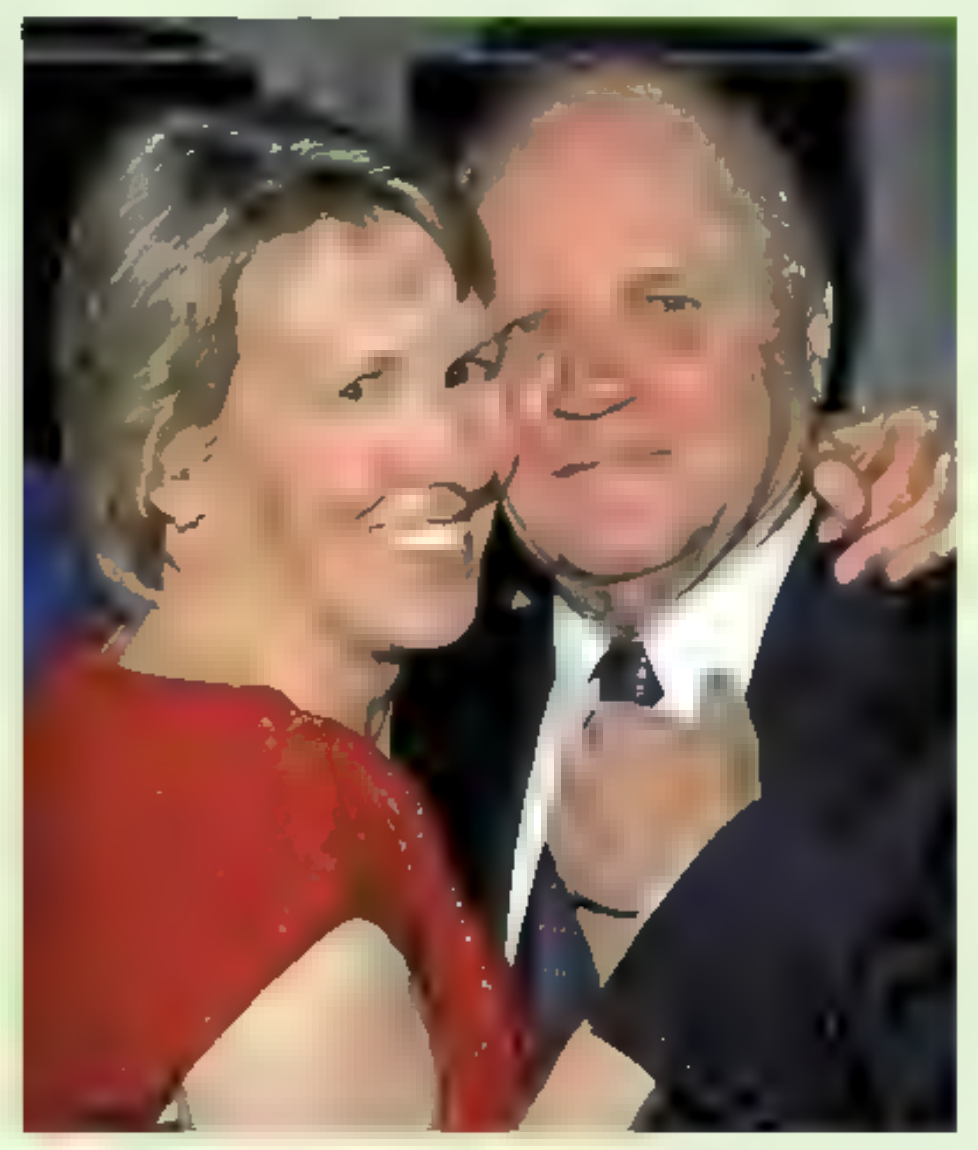


photo by Josh Monken

Enjoy a gourmet dinner, stroll through the Orchid Show, visit the camellias in bloom in the Linnean House, and dance the night away with your special someone. Cash bar available. Tickets are $60 per person. For reservations call (314) 577-9570 or log on to the website at www.mobot.org/membership.

Gardening Blitz Weekend

Saturday–Sunday, February 21–22
A full weekend of expert gardening advice and resources to get you started for spring. You pick the program: select from 19 of our most popular full-length gardening and art classes, from low-maintenance perennials and native plants to orchids and roses and beyond. Fees from $25 to $48; Garden members receive a discount. Registration required, so call (314) 577-9441 or visit www.gardeninghelp.org and click on "Classes."

GLOBAL GARDEN

Speaker Series

As part of our year-long 150th celebration, the Garden is hosting a first-of-its-kind lecture series, **The Global Garden**. Six celebrity experts address today's most important issues impacting people, plants, and the planet. Tickets are available online on the Garden's website, www.mobot.org, via will-call, or may be purchased at the Garden's ticket counter.

Matinees at 2 p.m. $10 ($5 for Garden members and students with a valid ID; includes Garden admission)

Evening at 7 p.m. $15 ($10 for Garden members and students with a valid ID; Garden is not open)

Series (save even more!) Matinee series is $50 ($25 members). Evening series is $75 ($50 members)

The Speakers

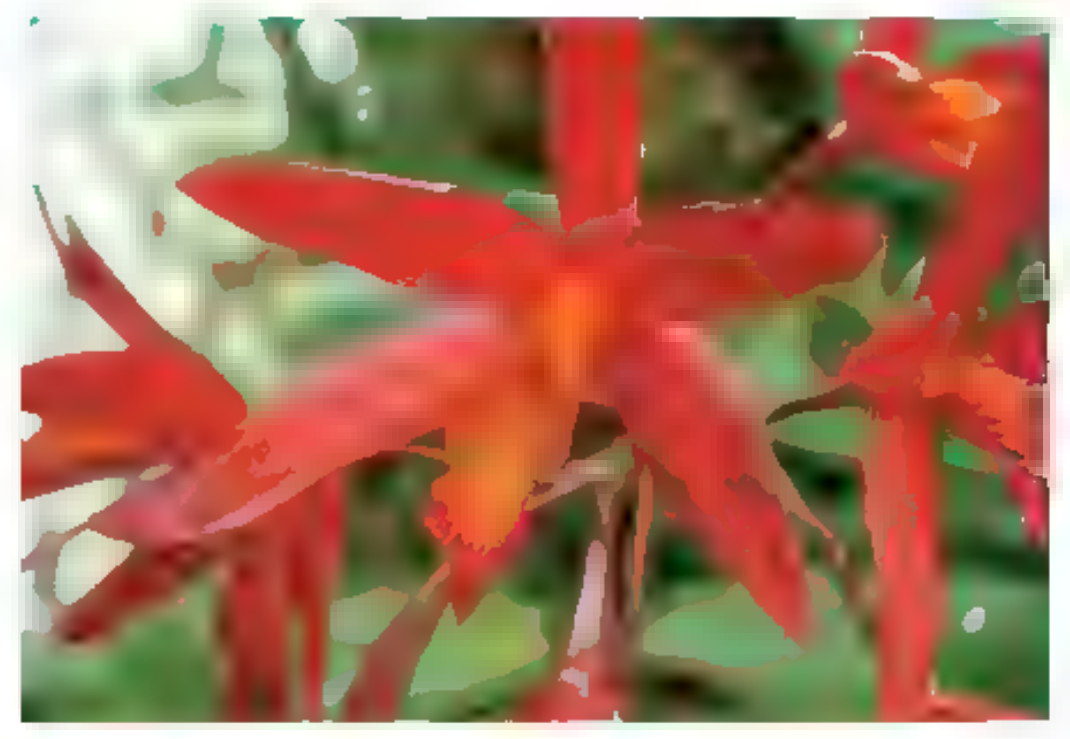
Thurs., Mar. 26 | Chris Kilham, CNN's Indiana Jones of natural medicine
Thurs., Apr. 23 | Dr. May Berenbaum, the nation's leading bee expert on colony collapse disorder
Thurs., June 18 | Dr. David Wolfe, plant ecologist and leading authority on the effects of climate change
Thurs., July 23 | Dr. Tom Swetnam, tree-ring researcher, world expert on Mega-Fires
Thurs., August 20 | Adam Gollner, author of *The Fruit Hunter*, an expert on freaky fruits
Thurs., October 15 | Richard Louv, author of *Last Child in the Woods*, nature advocate

February
2009

average temperature: low 26.5°, high 44.3°
average monthly precipitation: 2.28 in.

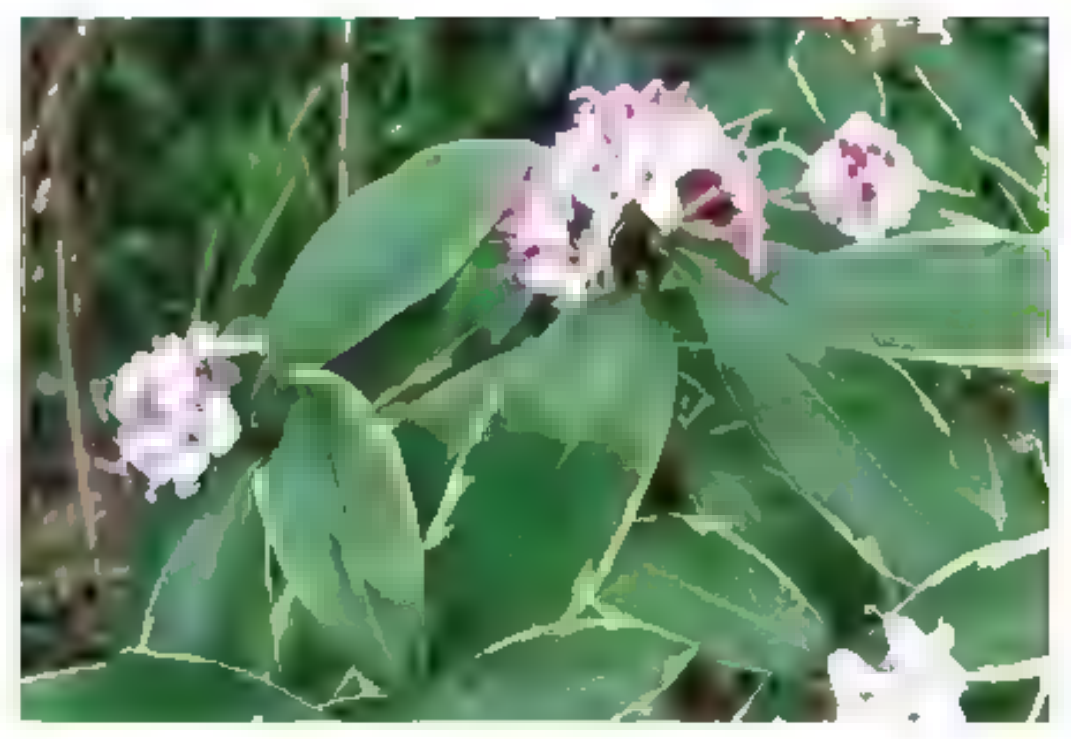
What's in bloom?

download the podcast at www.gardeninghelp.org


orchids

tropicals in the Climatron

winter jasmine


winter daphne

chenille plant

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
01	02 GROUNDHOG DAY ▪ Butterfly House closed.	03 ▪ Butterfly House closed.	04 ▪ Butterfly House closed.	05 ▪ Butterfly House closed.	06 ▪ Butterfly House closed.	07 ✿ Members' Event: New Member Orientation. noon. ▪ Backyard Bird Festival. 7:30 a.m. to 1 p.m. $ ☎
08 ▪ Celebrate the Gospel. 3 p.m. ST	09	10 ▪ "Xeriscaping" class. 10 a.m. to noon. BH. $ ☎	11 ▪ "Sustainability 101: Water Conservation" class. 6 to 8 p.m. EWC $ ☎	12 ▪ Native Plant School: Native Landscaping. 1 to 4 p.m. SNR $ ☎ ▪ Happy Birthday, Darwin, 7 p.m. ST	13 ▪ Camp Bugaloo: Winter. 10:30 a.m. to noon. BH $ ☎	14 ST. VALENTINE'S DAY ✿ Members' Event: Valentine's Dinner Dance. 6:30 to 10 p.m. $ ☎
15 ▪ Camp Bugaloo: Winter. 12:30 to 2 p.m. BH $ ☎	16 PRESIDENT'S DAY *Washington and Lincoln's birthdays observed*	17 ▪ "Improving Energy & Comfort at Home" class. 6:30 to 8 p.m. EWC $ ☎	18	19	20	21 ▪ Spring Gardening Blitz. $ ☎ ▪ Sugared, Spiced, and Everything Iced. RC ▪ Public Tour Days. EWC.
22 ▪ Spring Gardening Blitz. $ ☎ ▪ Sugared, Spiced, and Everything Iced. RC ▪ Public Tour Days. EWC.	23	24	25 ASH WEDNESDAY	26	27	28 ▪ March Morpho Mania™ BH, through Mar. 31.

Orchid Show Continues!

January 31
through March 15

Reminders

- Guided walking tours depart the RC ticket counter daily at 1 p.m.
- Every Wednesday and Saturday, early morning walking hours begin at 7 a.m.

KEY *(All events take place at the Garden unless otherwise noted.)*

CA = Cohen amphitheater
CL = Climatron lawn
GGS = Garden Gate Shop in RC
JE = Jordan Education Wing in RC
KC = Kemper Center for Home Gardening
SP = Spink Pavilion
RC = Ridgway Center
SS = Sassafras, the Garden's café in RC
ST = Shoenberg Theater in RC

Off-site locations:
BH = Butterfly House, (636) 530-0076
EWC = EarthWays Center, (314) 577-0220
LS = Little Shop Around the Corner, (314) 577-0891
SNR = Shaw Nature Reserve, (636) 451-3512

✿ Members-only event
☎ Reservations required, please see event details or call (314) 577-9400.
$ Fee

photos by Lisa Francis, JJ Lane, Brian Mueller, Heather Marie Osborn, Leslie Wallace, and www.mobot.org/plantfinder

photo by Charles Schmidt

ORCHID SHOW 2009:

January 31 through March 15

Experience the color, beauty, and fragrance of over 800 blooming orchids in the middle of winter. Listen to intriguing stories about orchid lore and history, and learn how to care for your own plants, with the free audio-commentary.

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MISSOURI
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bulletin

Spring 2009 Vol. 97, No. 2
www.mobot.org

photo by Kristi Foster

President's Comment

Spring blows into town March 20, and with it, the promise of renewal. After winter must come spring. The cycles of nature can give comfort to us all during these turbulent times. We mourn the passing of a decades-long trustee, Hal Wuertenbaecher, Jr. At the same time, we welcome and thank our new trustee, Rosalyn Kling; our new members' board officers; and our inspiring donors (see page 5).

The Garden's 150th anniversary celebrations are enlivening Garden grounds. We are ready to debut a new entrance drive, a new floral clock, and thousands of bulbs in bloom. The Eco Expo kicks off April 18-19 and a phenomenal Green Gala will be held May 30, with our guest of honor Dr. Steve Hopper, the director of the Royal Botanic Gardens—Kew. In the 1850s, Henry Shaw corresponded with Sir Jackson Hooker, then director of Kew, when he set about designing his St. Louis botanical garden, so it is only fitting to have their director take part in this year's celebrations. Not to mention, Kew is celebrating their 250th anniversary this very same year!

How Henry Shaw might be surprised to see how we've grown. The Garden now encompasses locations beyond our walls. The Sophia M. Sachs Butterfly House, with their guaranteed crowd-pleaser this spring, March Morpho Mania. The Shaw Nature Reserve, with their spring wildflower sale in May. The EarthWays Center, which was demonstrating the benefits of sustainable living, long before it was mainstream. May Shaw's spirit of foresight and enterprise guide us as we strive to make the most sustainable choices for people, plants, and the planet—and to meet the challenges of global climate change in the era to come.

Peter H. Raven

Dr. Peter H. Raven, *President*

> *To discover and share knowledge about plants and their environment, in order to preserve and enrich life.*
> *– mission of the Missouri Botanical Garden*

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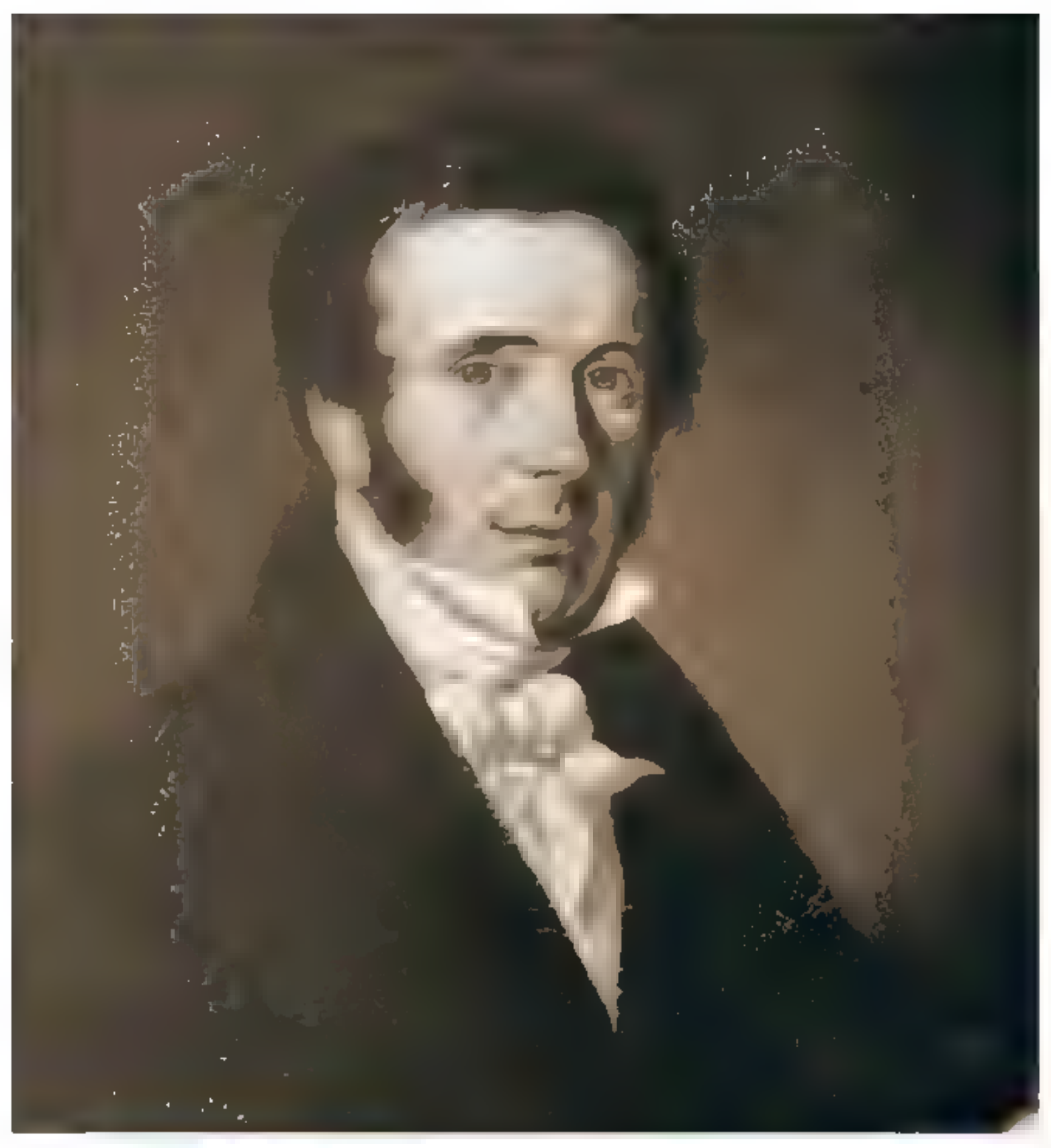

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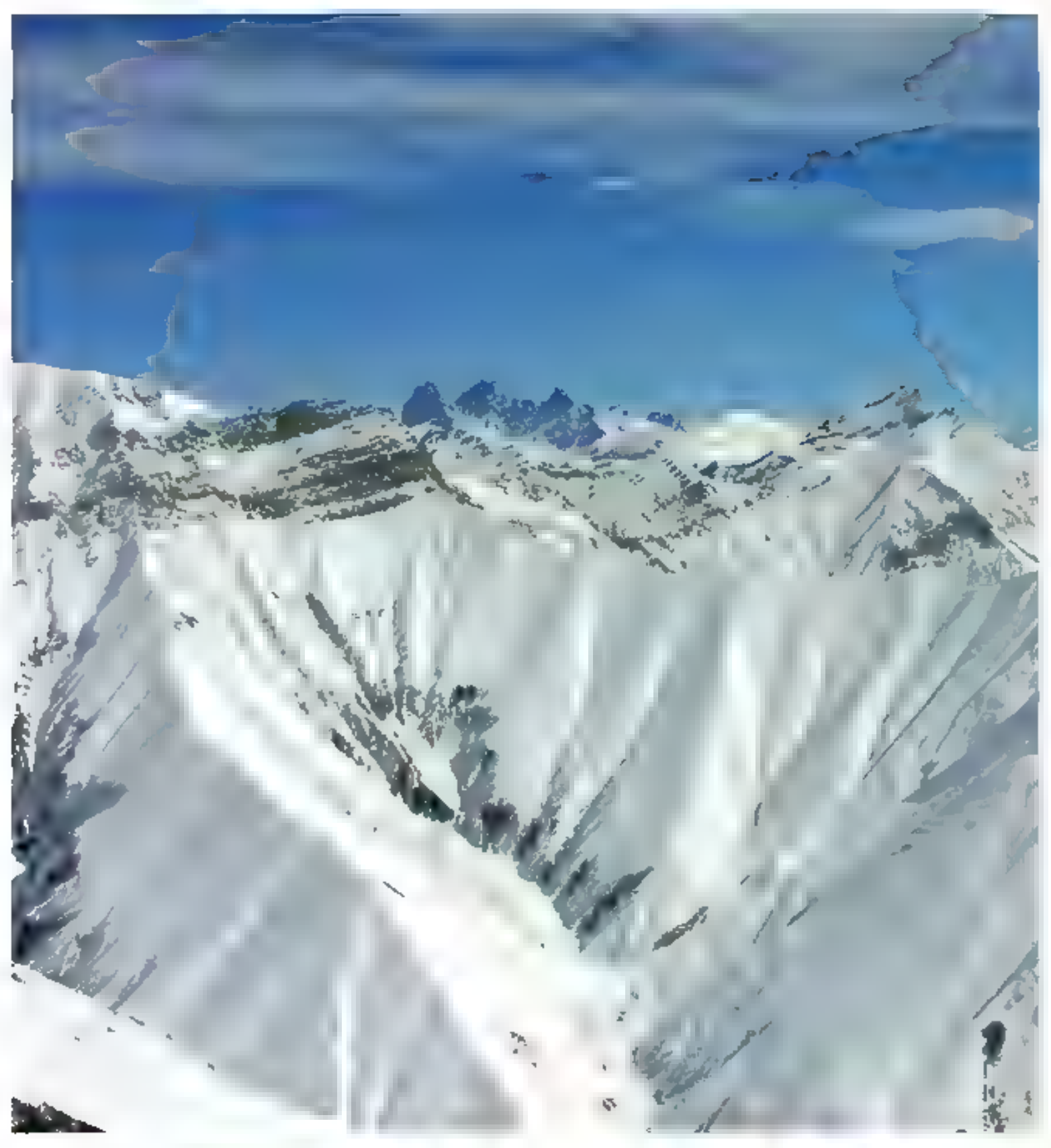
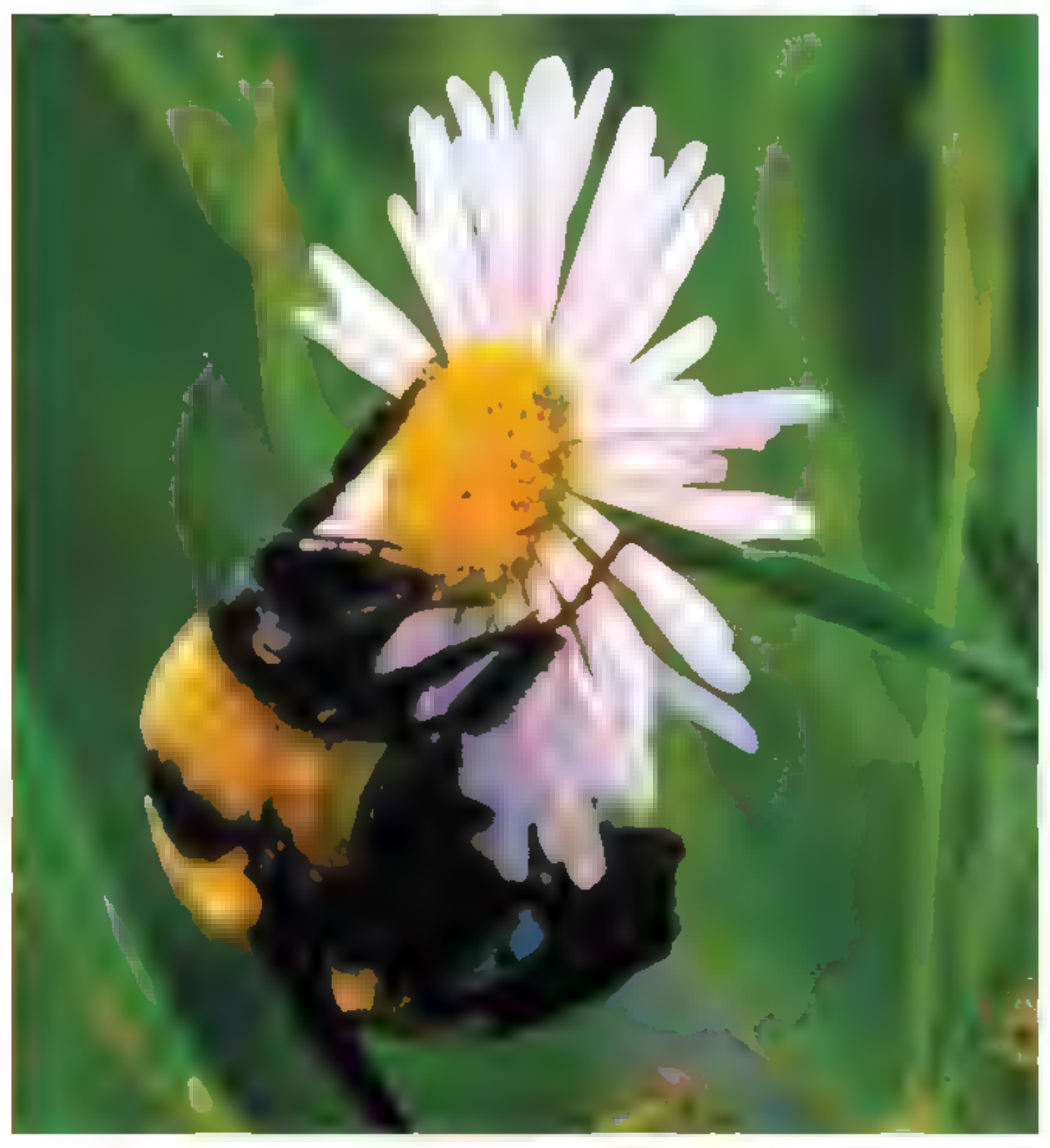
The Journals Never Before in Print



10–11
The Garden in the Caucasus
Uniting Scientists from Six Nations



12–13
What's the Buzz
Bees Pollinate Our Crops, but Are Now at Risk

Ready to Go Electronic?

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On the Cover:

Triumph tulip 'Leen van der Mark.'
Photographer Heather Marie Osborn.

Credits

Editor: Elizabeth McNulty
Designers: Ellen Flesch, Jeff Ricker

The *Bulletin* is a benefit of Garden membership.

The BULLETIN (ISSN 0026-6507) is published quarterly by the Missouri Botanical Garden, 4344 Shaw Blvd., St. Louis, MO 63110. Periodicals postage paid at St. Louis, MO

POSTMASTER: Please send address changes to Bulletin, Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166-0299

Garden Hours

Open daily 9 a.m. to 5 p.m. (Closed December 25.)
Parking is free.

General Admission

Adults $8; Members and children 12 and under free
* *Special events require an additional fee.*
St. Louis City and County visitors, with proof of residency, receive a discount on admission and free admittance on Wednesday and Saturday mornings until noon (unless special event pricing applies).

Contacts

Switchboard (314) 577-5100 (8:30 a.m. to 5 p.m.)
24-Hour Event Hotline (314) 577-9400
Website: www.mobot.org
Garden Gate Shop: www.gardengateshop.org

Members' Online Ticket Code

Enter your membership number and the code **henryshaw**.

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NEWS

Bishop Marcelo Sanchez Sarondo, the chancellor of the Pontifical Academy of Sciences, introduces Dr. Peter Raven to Pope Benedict XVI at the Pontifical Academy of Sciences.

Papal Visit

In October, the Garden's president, Dr. Peter Raven, participated in the Pontifical Academy of Sciences general assembly at the Vatican in Rome. The Academy is a non-denominational body of 80 renowned scientists from around the world who advise the Pope on matters of science and technology. Members are appointed for life; 11 of them are from the U.S. General assemblies are held every two years. This year's topic was cosmic and biological evolution. The Catholic Church accepts scientific explanations for evolution, including the evolution of the physical human body over billions of years, initiated by a creator. The Pope received the findings of the conference and commented on their importance in the modern world.

Little Shop Around the Corner Turns Five

The Little Shop Around the Corner is celebrating its fifth anniversary. Brainchild of emeritus trustee Evelyn Newman, the Little Shop opened its doors in March 2004 at 4474 Castleman, two blocks north of Garden grounds. The building features a mural by renowned local artist, the late Jan Boleto, who also designed the shop's logo. By year-end 2008, donations to the shop topped a half-million dollars.

"We owe the shop's success to the generosity of our donors," says shop manager Mark Currington. "Once people become aware that they can donate items from their estates to a good cause like the Garden, they feel better about letting go of some treasured possessions." Proceeds benefit the Garden and donors receive a tax credit. Call (314) 577-0891 to inquire about donating.

The Little Shop specializes in antique furniture, artwork, and collectibles. Come shopping this March to enjoy our "Fabulous Five" anniversary sale with savings of 20 percent.

In memoriam:

Harry E. "Hal" Wuertenbaecher Jr. | 1926–2009

Harry E. "Hal" Wuertenbaecher, Jr., a visionary among Garden leadership for 45 years, died January 9, 2009.

Mr. Wuertenbaecher had served as a trustee on the Garden's board since 1963. During his tenure, he worked with three Garden directors and saw the number of members grow from about 2,000 to almost 38,000. He was board president from 1967 to 1970 and was elected an emeritus trustee in 1987. In 1989, he was presented with the Garden's highest honor, the Henry Shaw Medal.

Mr. Wuertenbaecher retired in 1991 as vice president of public relations for what is today AmerenUE. He promoted not only the utility but the community, and the Garden was honored to be among organizations to which Mr. Wuertenbaecher gave his time.

He was instrumental in the success of the Garden's first capital fund drive, raising $3 million in 1969 to fund improvements in research and education. In 1979, he sought financial support for what would become the Ridgway Visitor Center. He helped launch the first program to form partnerships with local corporations and contributed to that program's success into this decade.

Mr. Wuertenbaecher supported several organizations, including the old Deaconess Hospital, National Museum of Transportation, Arts & Education Council of Greater St. Louis, and St. Louis Electrical Board.

photo by Kevin Wolf

Tina Allen | 1950–2008

Tina Allen, whose monumental sculptures of prominent African Americans fill public spaces across the United States, died on September 9, 2008 of complications from a heart attack.

Ms. Allen sculpted the 6-foot bronze statue which forms the centerpiece of the Missouri Botanical Garden's George Washington Carver Garden. The statue shows a mature Carver of about 65 years old wearing a lab jacket and a wise expression as he stands holding a flower to the sunlight. Ms. Allen's other works include public statues of Sojourner Truth, Frederick Douglass, Alex Haley, and Dr. Martin Luther King, Jr., among others. A number of her works are now in museums and corporate and private collections. Whether her subjects were famous or not, her works were her way of "writing our history in bronze," Ms. Allen was quoted as saying.

New Board Member

In January, the Garden's board of trustees welcomed a new member: Rosalyn H. Kling. Kling is a passionate supporter of environmental conservation, plant research, and animal welfare. In addition to the Garden, the Kling family supports several organizations, including the Barnes-Jewish Hospital Foundation, Saint Louis Zoo, and Oral Deaf Education. Kling was the spouse of the late S. Lee Kling, a Garden trustee and influential figure in the world of business, philanthropy, and politics.

VIP Visitor

Georganne Wheeler Nixon, wife of Missouri governor Jay Nixon, made a brief stop at the Missouri Botanical Garden on February 3 during a recent visit to St. Louis.

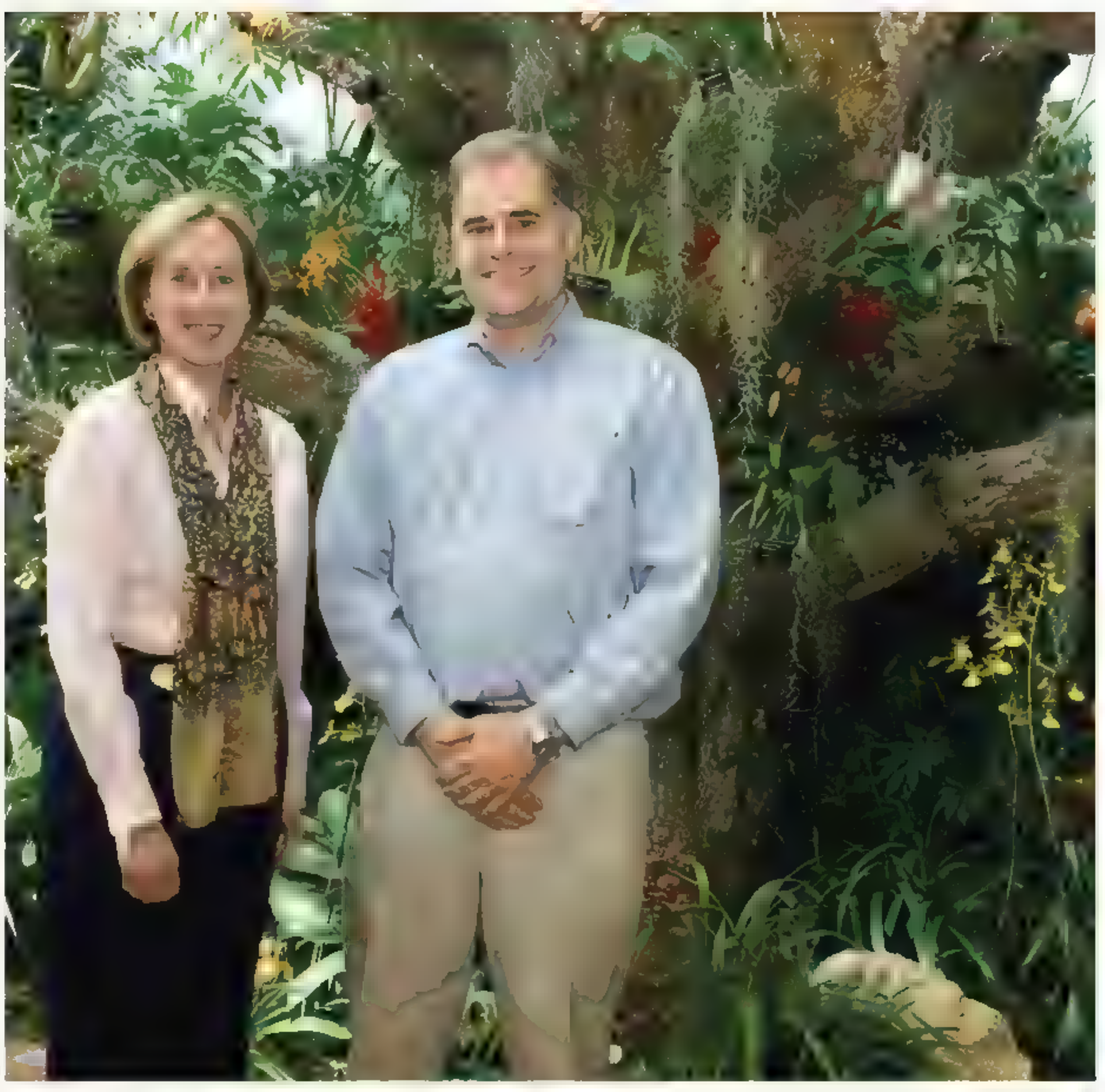


photo by Kathryn Douglas

Georganne Nixon receives a tour of the Garden's 2009 orchid show from vice president of horticulture James Cocos.

Remembering and Learning: A Place for Both at the Garden

For J.J. Burke, the Missouri Botanical Garden is both a place to feel close to someone he has lost and a place to foster discovery and learning for people who have since come into his life.

When Burke and his late wife, Louise, moved to St. Louis in 1984, they became regulars at the Garden. Louise was a home gardener, Burke said, and he was the "yard man." With the Garden as inspiration, the Burkes turned their Creve Coeur yard into something lovely. When Louise died in 1998, Burke honored her life by dedicating a signature bronze brick and a giant dogwood tree which stands nearby. "I call it 'Louise's tree.' It brings me a little closer to her when I'm here," he says.

photo by Kristi Ruggles

J.J. Burke stands beside the giant dogwood tree dedicated in memory of Louise Burke.

It has also brought him closer to some new friends. Once a week, "Mr. Jim," as they call him, takes his neighbor's identical 6-year-old triplets and their 3-year-old sister on an adventure—often to the Garden, especially the Doris I. Schnuck Children's Garden. They also make a point to find the brick dedicated in Louise's memory and visit her tree.

Burke feels so good about the gifts he has made in his wife's memory that he designated the Garden as a beneficiary in his estate plans. "I love so many of the local venues," he says, "but the Garden is special."

photos by Andrea Nickrent

Top: New officers: Laure Hullverson (Events Secretary), Ann Case (General Secretary), Janet Lange (President), Sheila Hoffmeister (First Vice President), and Andrea Craig (Treasurer). Not pictured: Linda Finerty (Second Vice President) Bottom: New members: Sammy Ruwitch, Ron Schlaprizzi, Janelle Criscione, Kathleen Smith, and Celeste Sprung.

Members' Board Updates

The Members' Board assists the Garden in its mission by organizing and implementing activities that encourage membership support, expand awareness, and increase the Garden's financial support. In January, the Garden held its annual meeting for the installation of new members and officers to the Members' Board.

photos by Andrea Nickrent

Young Friends Planning Committee: front row–Heidi Golz, Danielle Lee, Sarah Swoboda; middle row–Chris DeFabio, Karen Lohkamp, Sara Gillette, Delta Stokes, Cindy Bornhop, Dan Cook; back row–Sam Swoboda, Nathan Golz, Clayton Gillette, Jeremy Noland, and David Hults

Young Friends

The Missouri Botanical Garden would like to welcome the 2009 Young Friends Planning Committee members. Young Friends of the Garden is a program for young professionals in their 20s, 30s, and 40s dedicated to advancing the mission of the Missouri Botanical Garden. If you would like to receive more information about our Young Friends Program, please call (314) 577-9432 or e-mail young_friends@mobot.org.

NEWS *Science & Conservation*

photo by An Bollen

Staff from Parc Ivoloina plant nearly extinct saplings. The one known tree had been struck down by a cyclone, but luckily seed was preserved.

A Species Found, Lost, Restored

When Dr. Peter Lowry, head of the Garden's Africa and Madagascar Department, emerged from the Analalava Forest, a fragment of low-elevation rain forest close to Madagascar's east coast, he saw a large tree he did not know. Luckily it was flowering, and he was able to identify the specimen as *Schizolaena manomboensis*, a critically endangered tree previously known only from one site in southeast Madagascar! A search of the forest revealed that this tree was the last of its kind at this eastern site as well.

Dr. Lowry and colleagues collected seeds to be sent to the Ex-situ Plant Conservation Unit at the nearby Parc Ivoloina for propagation. Three weeks later, the Analalava Forest was stuck by a violent cyclone. The lone *Schizolaena manomboensis* tree was struck down. Happily, seedlings emerged from the collected seeds, and in November, ten saplings of *Schizolaena manomboensis* were planted back in the Analalava Forest. Another twenty are being grown in Ivoloina's "safety net" collection of threatened plants. Extinction was avoided this time, but on numerous other occasions, species of plants and animals slip away unnoticed and unlamented. The Garden's science and conservation researchers work to document and preserve these species in 36 countries around the world.

Conservation Coffee

caffé Kuva
PERU CHILCHOS

Café Peru Chilchos, high-quality conservation coffee.

The Garden, in partnership with St. Louis's Kuva Coffee Company, announces the launch of an environmentally and economically sustainable coffee, Café Peru Chilchos.

Chilchos is an isolated region in the Huayabamba cloud forest in Peru, a refuge for a large number of plant and animal species found nowhere else on Earth. Accessible in large part only by a two-day journey over mule trail, Chilchos is today a fragile ecosystem threatened by outside development, especially mining. The Garden's William L. Brown Center is working with the Chachapoya Biocommunity Network to establish a Huayabamba Conservation Corridor there.

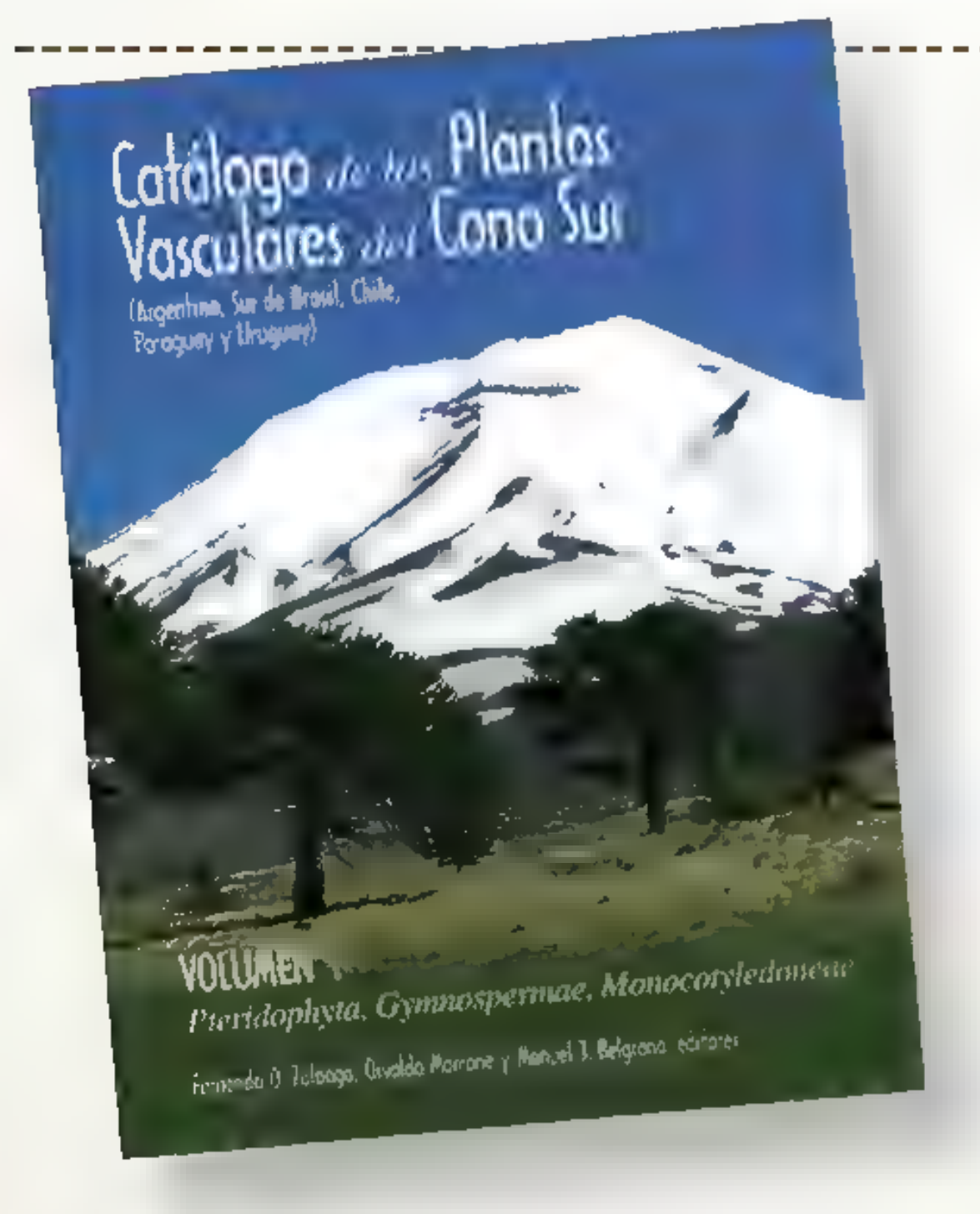
Café Peru Chilchos provides the population a more sustainable livelihood. Local families receive fair trade compensation for their coffee grown under shade trees and without chemicals or artificial fertilizer, thus producing high-quality coffee for a fair price while preserving the cloud forest.

Look for Café Peru Chilchos at the Garden Gate Shop, Local Harvest Grocery, Whole Foods, the Market at Busch's Grove, and local farmer's markets. Ten percent of proceeds from the sale of Café Peru Chilchos supports the work of the William L. Brown Center on the Huayabamba Conservation Corridor.

Dr. Raven Receives Lifetime Achievement Award

Dr. Raven receives the National Council for Science and the Environment prize.

Garden president Dr. Peter Raven received the National Council for Science and the Environment (NCSE) Lifetime Achievement Award. The award, "For a Distinguished Career as an Innovative Leader Advancing Scientific and Public Understanding and Conservation of Biological Diversity," was presented at a special ceremony in Washington D.C. on December 8, during the 9th National Conference on Science, Policy, and the Environment: Biodiversity in a Rapidly Changing World.



The Garden's Catalog of the Plants of the Southern Cone, *the first international plant list of this unique region.*

Garden Publishes Important Conservation Tool

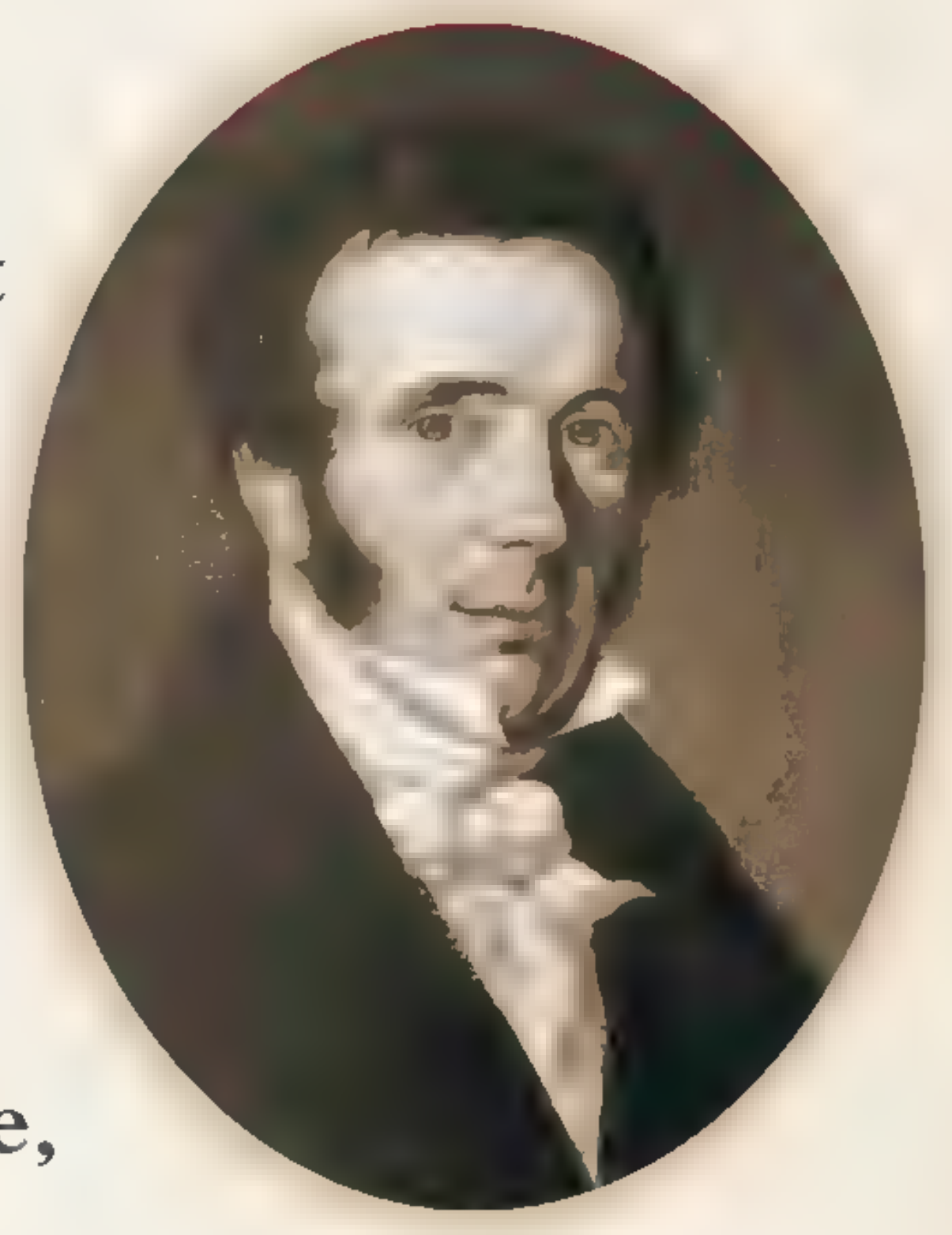
In late 2008, the Missouri Botanical Garden Press published the first comprehensive plant database for the southernmost areas of South America, known as the Southern Cone. The *Catalog of the Plants of the Southern Cone* is a checklist of the nearly 18,000 plants found in Argentina, southern Brazil, Chile, Paraguay, and Uruguay. It is the first time that such an international list has been assembled, and because the *Catalog* lists geographic locations, scientists can use it as a guide to monitor changes caused by habitat destruction, over-harvesting, and global climate change.

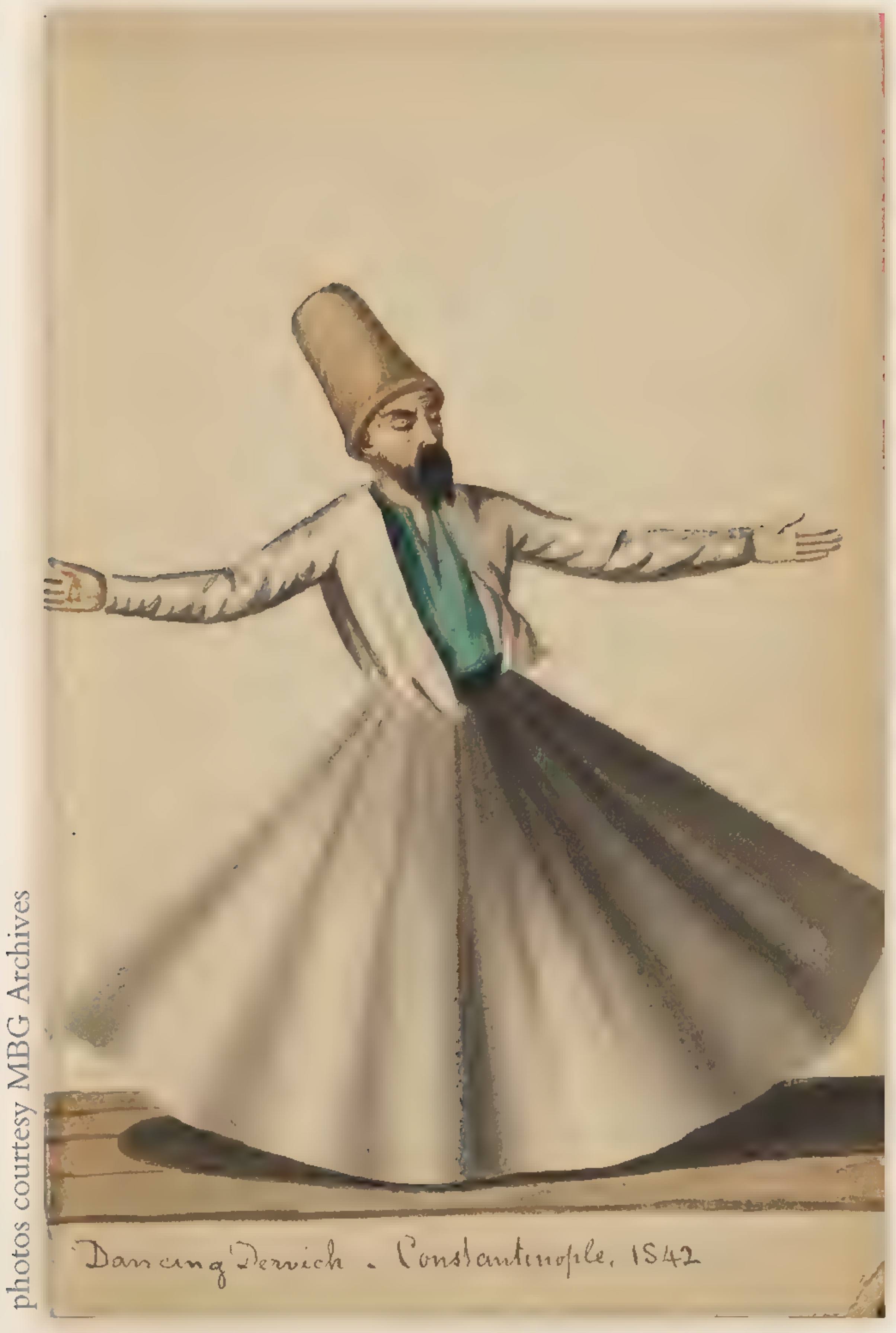
"Particularly at risk are plants with relatively limited areas of distribution, since their habitat may simply disappear in the future," says Dr. Peter Raven, Garden President. "In view of this problem, the catalog provides important information to serve the purpose of conserving the unique plants of the area, approximately half of them found nowhere else in the world."

Travels with Henry Shaw

First open to the public in 1859, the Missouri Botanical Garden is the oldest botanical garden in continuous operation in the United States and one of only two gardens to achieve National Historic Landmark status. In 2009, we celebrate the Garden's 150th anniversary, or sesquicentennial, with the publication of a series of reprints of historic documents.

Although he kept detailed business papers, Garden founder Henry Shaw left little personal material for biographers to consider in analyzing his life. One of the few items which remain is a series of five journals. Following his retirement from the hardware business in 1840, Shaw traveled abroad and made notes, recollections, and even sketches in these small bound books. Never before in print, these journals will be published over the course of 2009 in the new Garden blog "Travels with Henry" online at www.mobot.org. We hope you'll join us as we chart Henry's journey to Europe and beyond—carnival in Venice, dervishes in Turkey, quarantine off the African coast, and waltzing in Vienna are just a few of the adventures that await!





photos courtesy MBG Archives

A dervish in Constantinople was just one of the many sights Shaw captured in his travel journals.

Excerpt: Henry Sets off from St. Louis to Visit his Parents in Rochester before Sailing for Europe

July 11, 1840. After a preparatory arrangement of my affairs for an absense[1] of 18 or 20 months this day took passage on steamer Fayette for Peru the highest navigable point on the Illinois River and about 300 miles from St. Louis. Was much disappointed in the appearance of the levies and settlements on the Illinois some of which appear rather more going to decay than advancing in prosperity.

July 13, 1840. Landed at Peru and immediately got extra stage coaches to carry us to Chicago a distance of 100 miles. We were 18 passengers in all—nine in each stage and being fine weather had a most agreeable ride across the prairies—which at this season are covered with verdure a land of vast extent. Passed or forded Fox River and afterwards the Des Plains both tributaries of the Illinois. The road is good and for the most part level and country favorable for the construction of the canal undertaken by the state of Illinois to connect Lake Michigan with the river. The work is said to be already half completed and some progress making to finish it. When within 9 miles of Chicago came to a low swampy country which occupied several hours to pass.

July 14, 1840. Arrived at Chicago at 9h a.m. The Lake Steamer *Illinois* had left half an hour only before our arrival. Was of course much disappointed—have to wait two days for the *Great Western*.

July 15, 1840. Pass'd at Chicago—rather a dull place—a good hotel call'd the Lake House—and the air from the lake cool and refreshing to those coming from a Southern climate.

continued on page 22

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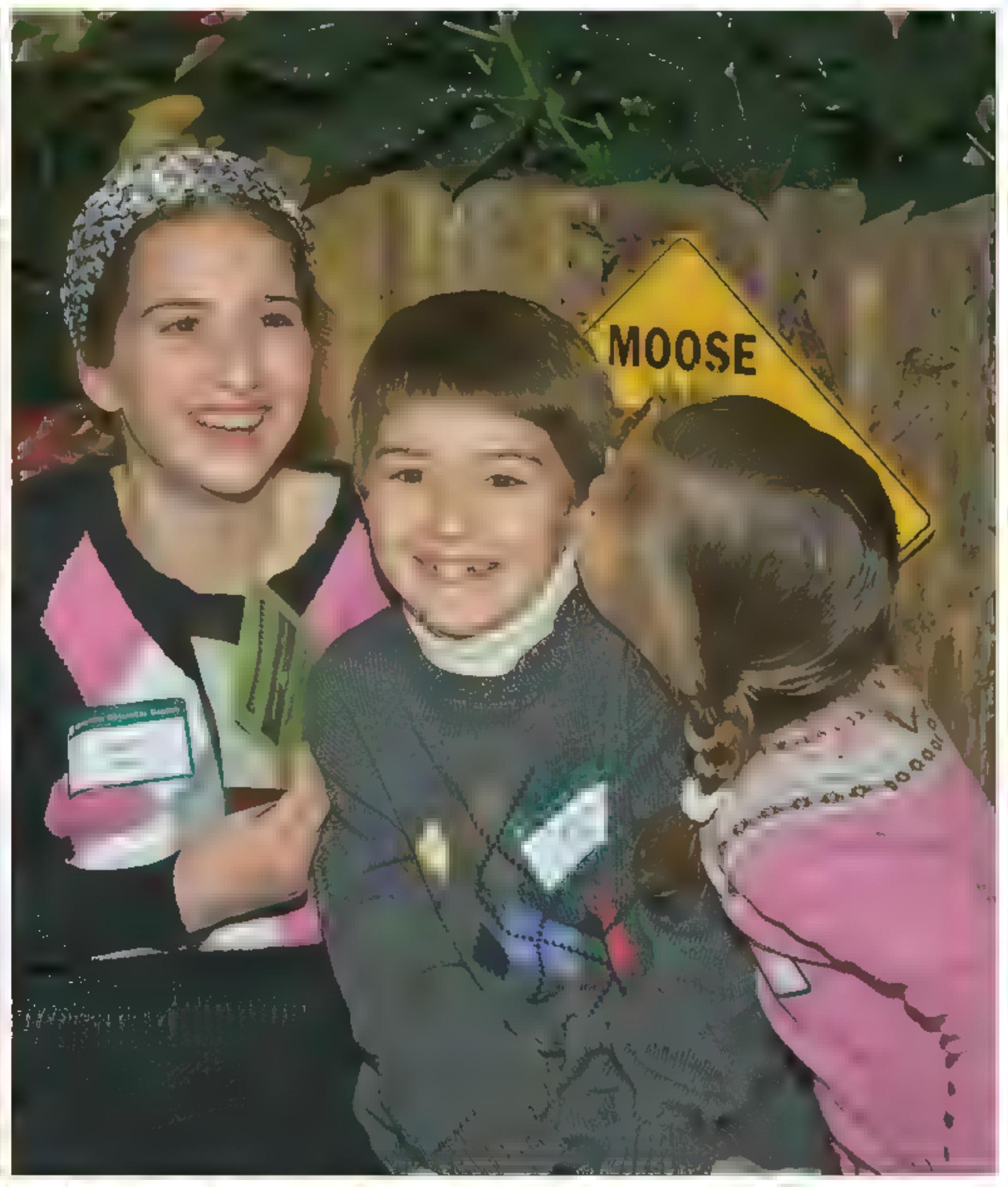
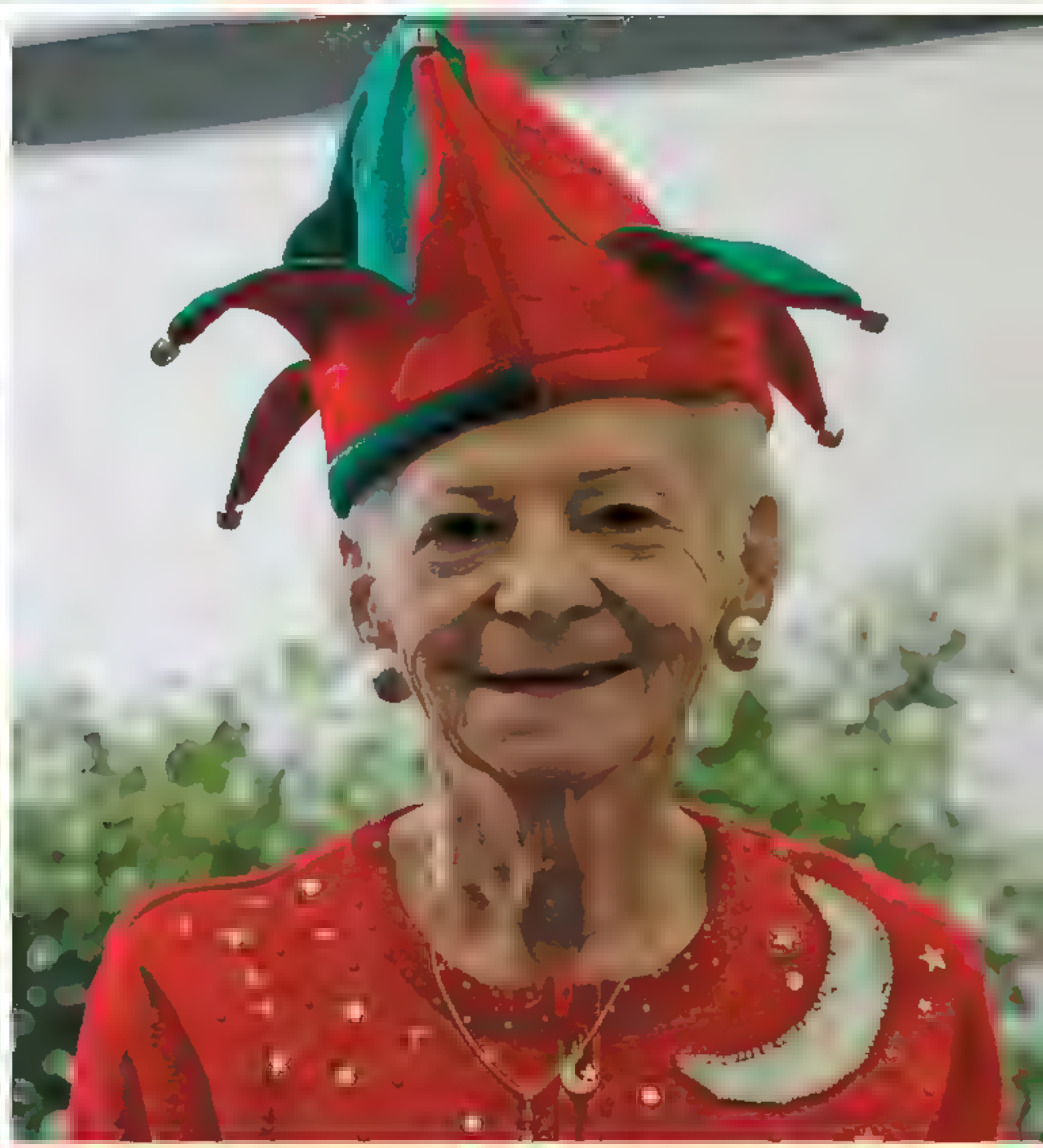
[1] *Shaw's variable spellings, punctuation, and grammar, preserved throughout, are typical even for well-educated gentlemen in the 19th century.*

Gardenland Express Premiere

On Monday, December 1, the Garden's upper level members attended the annual Holiday Show Premiere. Over 500 people attended this magical event to celebrate the holiday flower and train show.



photos by Josh Monken and Heather Marie Osborn



Breakfast with Santa

On Saturday, December 6, the much-beloved Breakfast with Santa was again a sold-out affair, with over 350 participants. Lists were conveyed to Santa and a mountain of hats and mittens was collected for charity.

The Garden in the Caucasus

The Great Caucasian Range has snowcaps throughout the year.

By Dr. Tatyana Shulkina, Ph.D. researcher

Before the Russian–Georgian conflict last August, few Americans knew where Georgia was. Seven years ago, when the Garden's first research team was about to leave for this country, they were asked: "Are you going to Atlanta?" No, they went to the Caucasus—one of the world's most important biodiversity "hot spots."

The Caucasus Mountains are situated between two continents, between the Black Sea (Europe) and the Caspian Sea (Asia), and span six countries: Russia, Georgia, Armenia, Azerbaijan, Turkey, and Iran. In Greek mythology, the Argonauts searched for the Golden Fleece here. According to the Bible, Mount Ararat (in modern-day eastern Turkey) was the resting place for Noah's Ark.

The vegetation in the Caucasus is remarkably diverse, ranging from alpine meadows to mountain conifer forest to arid shrublands and semi-desert. Of about

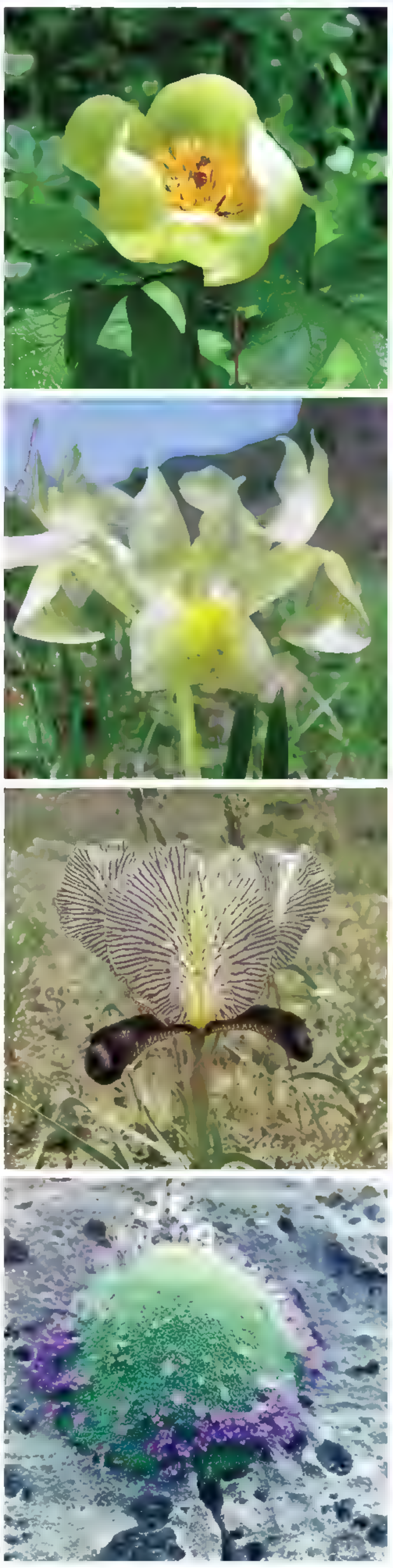


photo by O. Abdaladze, A. Mikheev, and R. Murtazaliev

*At left, from top to bottom: (1) Steven's peony (*Paeonia steveniana*). One of four yellow (light and dark) species occurring in the Caucasus. 2) Almost extinct in nature, this bulb iris (*Iris winogradowii*) now occurs in only one place: Mt. Lomtismta, in Georgia. 3) Medwedewi iris (*Iris medwedewii*) in the east Caucasus. It is extremely rare in the wild. 4) Cushion plant of bellflower (*Muehlenbergella oweriniana*) in the eastern Caucasus.*

photo by O. Abdaladze

6,300 species of vascular plants, about 2,500 are endemic to the region, meaning that they are found only there and nowhere else. Many food crops were domesticated there. Some ancestors of our cultivated plants still appear in the Caucasus, such as wild wheat and grape species.

Despite this historical richness, botanists and conservationists outside the former Soviet Union have had little opportunity to document the region's rare and endangered plants. Most information has been published only in Russian, of little help to neighboring countries. Further, with political tensions high, no country in the region was able to initiate a collaborative work on the complete flora of the region. Without a list of endangered plant species, there is no scientific basis for conservation.

In 2003, the Missouri Botanical Garden came to play the role of mediator in this complicated situation. With the financial support from the Trust for Mutual Understanding, the Garden held a botanical conference in Tbilisi, the capital of Georgia. It was the first time since the collapse of the Soviet Union in 1991 that botanists from Russia, Armenia, Azerbaijan, and Georgia had gathered together to discuss their mutual concern: how to protect Caucasian plant life and especially rare and endangered plants.

photo by George E. Schatz

Garden botanists Peter Jørgensen, James Solomon, and Tatyana Shulkina with participants from five countries at the High Mountain Biological Station, Bakuriani, Georgia. Photo taken by the Garden's Dr. George Schatz, head of the Caucasus project.

photo by R. Murtazaliev

The village in the North Caucasus, Dagestan.

> Situated between two continents, between the Black and Caspian seas, the Caucasus is where Jason and the Argonauts sought the Golden Fleece.

Although some of these countries had only recently been at war, the meeting ended successfully. A committee was created to complete a Caucasian Plant Red List—a list of the most endangered plants—with the Garden's head of herbarium, Dr. James Solomon, as the editor. The Critical Ecosystem Partnership Fund (CEPF) and the International Union for Conservation of Nature (IUCN) funded the project.

Work is in progress on the list right now. Botanists from all partnership nations are undertaking field trips to the region to evaluate the extinction risk of plant species. Garden researchers in the U.S. are assisting with taxonomic classification, standardizing the plant names and organizing them to make them understandable to Western botanists.

Progress continues despite politics. Scientists have met twice more in Georgia, which is the most tolerant country in the region with the greatest diversity of nationalities. Armenia and Azerbaijan are still technically in a state of war, so citizens of these countries may not freely visit each other. The 2007 meeting was held in Russia, but the government would not grant visas to Georgian scientists. Since the war in August 2008, this tension has worsened.

Consequently, the Missouri Botanical Garden hopes to host the next meeting of the Caucasian Plant Red List committee in St. Louis in October 2009. Botanists are especially excited to review the Garden's herbarium, one of the best in the world, to use it as a model for herbarium development in their home countries. It will be the first time that many of these esteemed scientists have visited the U.S.

What's the Buzz?

Bees Pollinate Our Crops, but Are Now at Risk

by Chip Tynan, Garden Answer Man

By most accounts, 2008 was a banner year for honeybees and beekeepers locally. Plants damaged by the spring freeze in 2007 burst into bloom in 2008 with a vigor seldom seen in recent memory. Rainfall arrived like clockwork through spring and early summer, almost as though Mother Nature had read the book on watering techniques and arranged to deliver local gardens the recommended inch of water every week. Honeybees rewarded their handlers with hives laden with exceptional honey.

News about honeybees hasn't always been so upbeat in recent years. Beset by many problems, their numbers have declined dramatically in the last half-century. From a high of almost 6 million honey-producing colonies in 1947, there were fewer than 2.5 million colonies by 2008. Honeybees produce almost $150 million worth of honey annually in the United States. Beeswax, pollen, and other byproducts add significant additional economic value. Most importantly, however, are the pollination services they provide to commercial agriculture and home gardeners alike. These contribute almost $15 billion annually through improved yield and quality of many fruit, vegetable, nut, ornamental, and fiber crops. The impact of the loss of honeybee services would have a chilling effect on our food and diet. Food prices would soar, and crop diversity would diminish.

What about wild bees? These were dubbed "The Forgotten Pollinators" in the 1996 classic

photo by Bill Hall

Missouri native bumblebee on a false aster.

book of the same name, authored by Stephan L. Buchmann and Gary Paul Nabham. There are more than 3,500 species of wild, native, or "pollen" bees in North America. Unlike the gregarious honeybee, the majority lead solitary lives, raising just a few young every year in small underground nests, hollow twigs, or structures fashioned from abandoned beetle burrows in the trunks and branches of dead trees and shrubs. Their lives are mutually intertwined in the complex fabric of the diverse native flora of this continent, with which they co-evolved. Like honeybees, wild bees are also in decline, especially from loss of habitat and excessive and inappropriate use of pesticides.

There are no honeybees native to the Americas. They arrived on our shores in the early 1600s, brought here by European colonists. In less than 400 years, they've spread into virtually every environmental nook and cranny in North America and provide formidable competition for the pollen and nectar resources of the same flowers that nurture every generation of our native bees. But honeybees now face their most difficult challenge: colony collapse disorder, or CCD. CCD is the sudden and mysterious disappearance of adult honeybees that leave behind their brood, honey, pollen, and all other resources necessary for colony survival. They seemingly vanish into thin air. Their whereabouts elude detection, and their bodies are never recovered. The riddle of CCD remains to be solved, and its understanding may be crucial to the continuance of honeybees as our principal agricultural pollinator. Researchers are considering a complex combination of factors involving various mite and beetle parasites; fungal, bacterial, and viral diseases; and pesticides applied both in the field and within the hive for parasite control. But no one single factor can yet be pinpointed as a definitive cause.

What can individuals do to help reverse this course and allow bees to thrive? First and foremost, we must recognize their need for safe habitat and provide it. By doing so, all wildlife stands to benefit. Incorporating pollinator-friendly practices on both private and public land will yield positive results. Start by turning your own garden into a pesticide-free haven. Reduce resource-hungry lawn space and replace it with native plants. Above all, support youth education that teaches children about nature and positively reinforces kids' innate curiosity of the natural world, especially where insects are concerned.

To learn more about creating pollinator gardens, visit these online resources:

- www.pollinator.org/pdfs/EBFContinental.rx10.pdf
- www.pollinator.org/pdfs/PrairieParkland.rx11.pdf
- www.attra.org/attra-pub/nativebee.html
- http://gears.tucson.ars.ag.gov/na/bgardn.html
- http://nature.berkeley.edu/urbanbeegardens

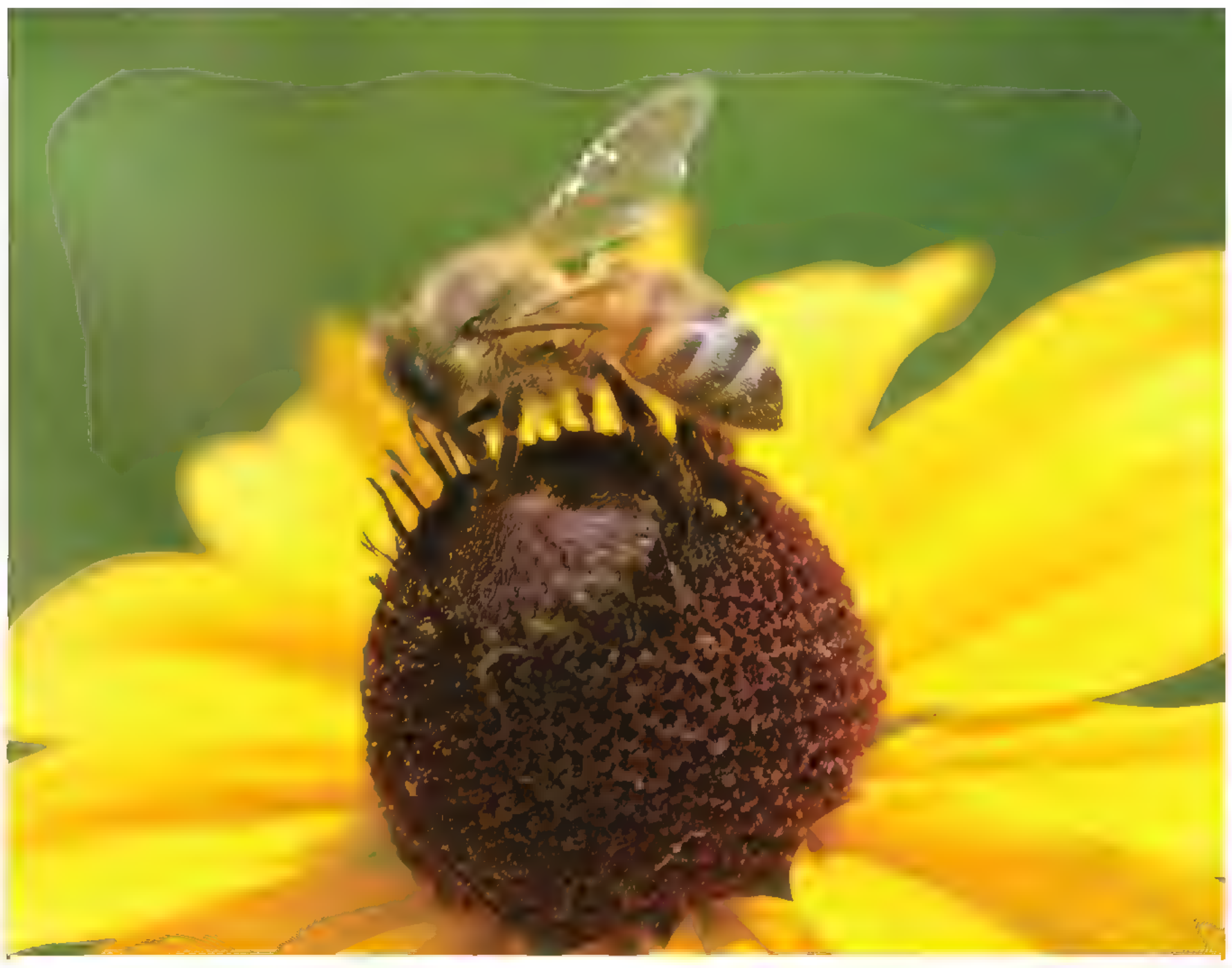


photo by Scott Woodbury

Honeybee on a black-eyed susan.

A Bee Garden for St. Louis

To create your very own bee garden here in St. Louis, horticulture supervisor June Hutson recommends selecting mostly native plants with three seasons of display—and bee forage. Mix in some herbs for a true bee delight. Among the best: bee balm, borage, oregano, and thyme.

Spring
Serviceberry (*Amelanchier* spp.)
White false indigo (*Baptisia alba*)
Blue false indigo (*Baptisia australis*)
Purple coneflower (*Echinacea*)
Gaura spp.
Toadflax (*Linaria* spp.)
Sweet alyssum (*Lobularia maritime*)
Lambs' ear (*Stachys byzantina*)

Summer
Indian blanket (*Gaillardia pulchella*)
Sunflowers (*Helianthus annuus*)
Oriental poppy (*Papaver orientale*)
Giant hyssop (*Agastache*)
Black-eyed Susan (*Rudbeckia hirta*)
Bluebeard (*Caryopteris*)
Tick seed (*Coreopsis*)
Rattlesnake master (*Eryngium yuccifolium*)
Sedum spp.
Tansy (*Tanacetum macrophyllum*)
Mexican sunflower (*Tithonia rotundifolia*)

Fall
Aster spp. such as Wood, Heath, New England, and Smooth, and Aromatic
Mist flower (*Conoclinum coelestinum*)
White snakeroot (*Eupatorium rugosum*)
Western ironweed (*Vernonia baldwinii*)

WHAT TO DO IN YOUR GARDEN NOW...

clip and save

photo by Heather Marie Osborn

March

all month

- ☐ Fertilize vegetables while preparing the soil for planting.
- ☐ Clean up beds by removing all weeds and dead foliage.
- ☐ Dormant mail-order plants should be unwrapped immediately. Keep the roots from drying out, store in a cool protected spot, and plant as soon as conditions allow.
- ☐ Trees, shrubs, and perennials may be planted as soon as they become available at local nurseries.
- ☐ Gradually remove mulch from strawberries as the weather warms.
- ☐ Repot rootbound houseplants to containers 2 inches larger in diameter than their current pot. Check for insect activity; control as needed. Prune leggy plants.
- ☐ Mow lawns low to remove old growth before new begins.

week 1

- ☐ Delay planting vegetables if the soil is too wet. When a ball of soil crumbles easily after being squeezed together in your hand, it is dry enough to be safely worked.
- ☐ Asparagus and rhubarb roots should be planted as soon as the ground can be worked.
- ☐ Seeds of hardy annuals such as larkspur, bachelor's buttons, and California poppies should be sown in the garden now.
- ☐ Complete heavy pruning of trees before growth occurs.
- ☐ Prune grapes. Tie vines to the trellis before the buds swell to prevent injury and crop loss.

week 2

- ☐ Plant peas, lettuce, radishes, kohlrabi, mustard greens, collards, turnips, potatoes, spinach, and onions (seeds and sets) outdoors.
- ☐ Summer and fall blooming perennials should be divided.

week 3

- ☐ Plant beets, carrots, parsley, and parsnip seeds outdoors. Set out broccoli, cabbage, brussels sprouts, Chinese cabbage, and cauliflower transplants into the garden.
- ☐ Apply sulfur to the soils around acid-loving plants such as azaleas, rhododendrons, hollies, and dogwoods. Apply a balanced fertilizer to perennial beds when new growth appears.
- ☐ Plant spring bedding plants outdoors now.
- ☐ Cut ornamental grasses to the ground as new growth begins.
- ☐ Apply dormant oil sprays to your fruits now. Choose a dry, warm weather day.
- ☐ Apply broadleaf herbicides now for control of cool-season weeds. These must not be applied to areas that will be seeded soon.

week 4

- ☐ Start seeds of tomatoes, peppers, and eggplants indoors.
- ☐ Gradually start to pull back mulch from rose bushes.
- ☐ Prune peaches and nectarines just before they bloom.
- ☐ Mulch bramble fruits for weed control.

- ☐ Overseed thin spots and bare patches in the lawn.

For additional information on plant care and gardening:

- *visit the William T. Kemper Center for Home Gardening.*
- *call the Horticultural Answer Service, Monday through Friday, 9 a.m. to noon, at (314) 577-5143.*
- *check out the Gardening section at www.mobot.org*

photo by Heather Marie Osborn

April

all month

- ☐ Start mowing cool season grasses.

week 1

- ☐ Start cucumber, cantaloupe, summer squash, and watermelon seeds indoors. Finish sowing seeds of all cool-season vegetables not yet planted outdoors.
- ☐ Plants started indoors should be hardened off before being transplanted.
- ☐ Asparagus and rhubarb harvests begin.
- ☐ Winter mulches should be removed from roses. Complete pruning promptly. Remove only dead wood from climbers at this time. Cultivate lightly, working in some compost or other organic matter.
- ☐ Shrubs and trees best planted or transplanted in spring rather than fall include butterfly bush, dogwood, Rose of Sharon, Black gum (*Nyssa*), vitex, red bud, magnolia, tulip poplar, birch, ginkgo, hawthorn, and most oaks.
- ☐ Plant bareroot or potted fruits as soon as the soil can be worked. Remove tree wraps from fruit trees.
- ☐ Mount a rain gauge near the garden to track precipitation. Most gardens need about 1 inch of rain per week between April and September.

week 2

- ☐ Finish transplanting broccoli, brussels sprouts, cabbage, and cauliflower plants into the garden.
- ☐ Sow seeds of hardshell gourds indoors. Soak seeds overnight before planting.
- ☐ Thin out crowded seedlings from early plantings of cool-season crops such as beets, carrots, lettuce, onions, and radish.
- ☐ Examine shrubs for winter injury. Prune all dead and weakened wood.
- ☐ When crabapples are in bloom, hardy annuals may be transplanted outdoors.
- ☐ Fertilize established roses once new growth is 2 inches long.
- ☐ Do not prune boxwoods before April 15.
- ☐ Destroy or prune off webs of eastern tent caterpillars. Protect bees and other pollinating insects.
- ☐ Aerate turf if thatch is heavy or if soil is compacted. Topdress low spots and finish overseeding thin or bare patches. Apply crabgrass preventers before April 15. Do not apply to areas that will be seeded.

week 3

- ☐ Try an early sowing of warm-season crops such as green beans, summer squash, sweet corn, New Zealand spinach, and cucumbers. Flower stalks should be removed from rhubarb plants, if they develop.

week 4

- ☐ Begin planting lima beans, cucumbers, melons, okra, and watermelons. Begin setting out transplants of tomatoes, eggplants, peppers, and sweet potatoes.
- ☐ Easter lilies past blooming can be planted outdoors. Mulch well.
- ☐ Shear evergreen and deciduous hedges.
- ☐ Begin planting out summer bulbs such as caladiums, gladiolus, and acidanthera.
- ☐ Prune spring-flowering ornamentals after they finish blooming.

photo by Lauren Kirkwood

May

all month

- ☐ If spring rains have been sparse, begin irrigating, especially plants growing in full sun.
- ☐ Growing lettuce under screening materials will slow bolting and extend harvests into hot weather.
- ☐ Mulch blueberries with pine needles or sawdust.
- ☐ Keep bluegrass cut at 1.5 to 2.5-inch height. Mow tall fescues at 2 to 3.5-inch height.

week 1

- ☐ Begin planting gladiolus bulbs as the ground warms.
- ☐ Plant hardy water lilies in tubs or garden pools.
- ☐ Continue monitoring pines for sawfly activity on new shoots.
- ☐ Don’t remove spring bulb foliage or next year’s flower production will decline.
- ☐ Set out and stake tomato plants as soils warm.
- ☐ Begin planting sweet corn when white oak leaves are as big as squirrel ears (isolate varieties to prevent crossing).
- ☐ Keep asparagus harvested for continued spear production (control beetles as needed).
- ☐ Thin plantings of carrots and beets to avoid overcrowding.
- ☐ Control caterpillars on broccoli and cabbage plants by handpicking or use biological sprays.
- ☐ Don’t spray fruits while in bloom.

week 2

- ☐ Begin planting warm-season annuals.
- ☐ Plant summer bulbs such as cannas, caladiums, dahlias, and elephant ears.
- ☐ Place a stake by squash and cucumber seeds when planting in hills to locate the root for watering later.
- ☐ Mow zoysia lawns at 1.5-inch height. Remove no more than one-half inch at each mowing. Apply post-emergence broadleaf weed controls now if needed.

week 3

- ☐ Scale crawlers are active. Treat infested pines and euonymus now. Spray trees with a history of borer problems (repeat twice at 3-week intervals).
- ☐ Begin fertilizing annuals.
- ☐ Bulbs can be moved or divided as the foliage dies.
- ☐ Remove rhubarb seeds stalks as they appear.
- ☐ Set out peppers and eggplants after soils have warmed.
- ☐ Plant sweet potatoes.
- ☐ Zoysia lawns may be fertilized now. Apply no more than 1 lb. of actual nitrogen per 1,000 sq. ft.

week 4

- ☐ Pinch back mums to promote bushy growth.
- ☐ Sow warm-season vegetables after harvesting early crops.

Member Plant Societies

Plant societies are the place to profess your horticultural devotion. Groups exist for fans of flowers from African violets to roses, and for specific garden types such as rock or water gardens. For the latest contact information on the Garden’s plant society partners, visit www.mobot.org/plantsocieties.

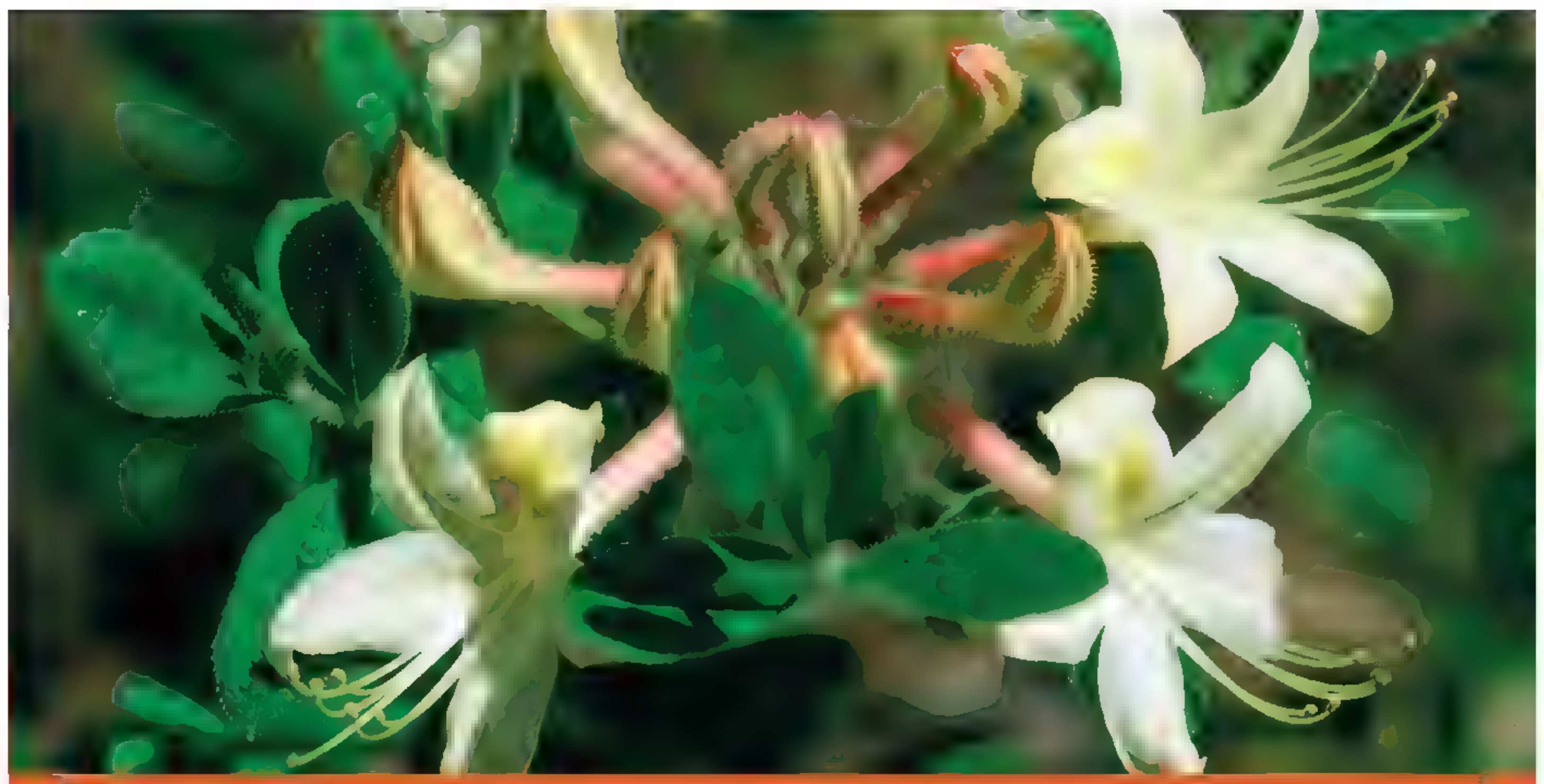


photo from Missouri Botanical Garden

Featured Plant of Merit™

Deciduous Azalea
Rhododendron ‘My Mary’

This deciduous azalea grows 4–5 feet tall and features intensely fragrant, funnel-shaped, soft yellow flowers in April–May. It is a perfect choice for wind-protected, part-shade areas in the landscape where both the sight and the scent may be enjoyed. Best performance occurs in acidic, loose, well-aerated, organically rich soils that are evenly moist but well-drained.

Plants of Merit™ is a program of the Missouri Botanical Garden. Plants are selected by regional horticulture experts for outstanding qualities and dependable performance in the lower Midwest. View all current selections at www.plantsofmerit.org.

Double Your Money

Throughout 2009, the William T. Kemper Foundation—Commerce Bank, Trustee will match your donations to the Plants of Merit program, dollar for dollar up to $50,000. To participate, please contact the Institutional Advancement Office at (314) 577-9513.

Plastic Pot Recycling

Now through September

Close the gardening loop! Recycle plastic garden pots, cell packs, and trays. Plastic should be empty of soil with no metal hangers or rings (no clay pots or food plastic). Please separate #6 plastic cell packs and trays from #2 and #5 plastic pots into the recycling trailers. West parking lot of the Garden’s Monsanto Center, 4500 Shaw Blvd. at Vandeventer. For a complete list of satellite collection centers throughout the metro area, visit www.mobot.org/hort/activ/plasticpots.shtml.

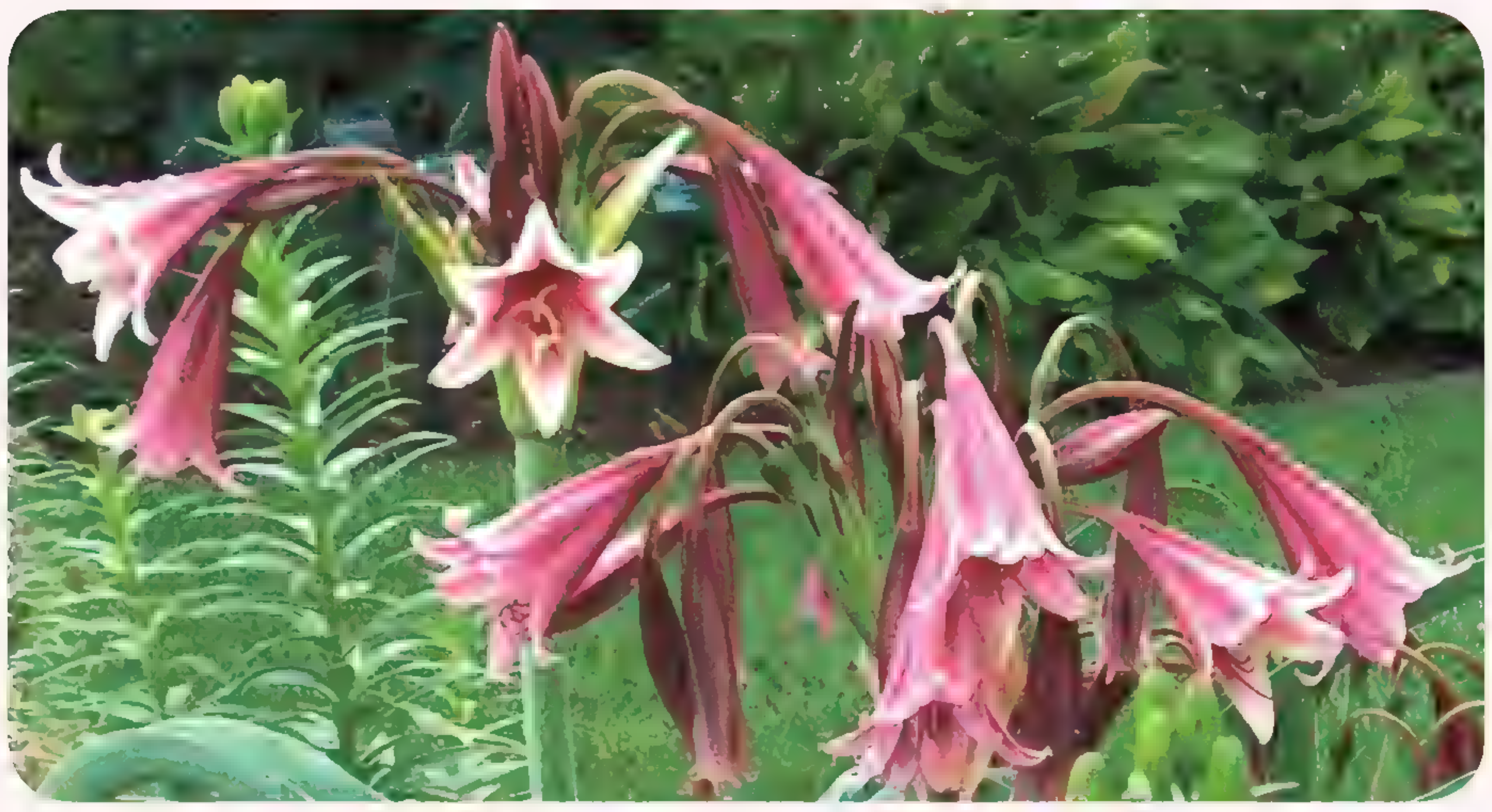


photo by Jason Delaney

Crinum bulbispermum, *a selected pink form; it flowers May–June, and again in August–September at about 3 feet in height.*

Unusual Hardy Bulbs for the Midwest

by Jason Delaney, Senior Horticulturist

Bulbs are certainly the harbinger of spring, but as a bulb specialist, I would love to see St. Louis gardeners branch out from the crocus-daffodil-tulip rut. There are several great bulbs that flower in summer through fall for St. Louis. These genera are still somewhat unfamiliar to our gardeners, and they are often thought—erroneously!—not to be hardy. Not only are they hardy, there is a fairly large selection available of each plant to provide extended interest from summer through fall. Better yet, each is fragrant, animal-resistant, and low-maintenance. Not to mention beautiful! (This column is the first of three.)

Crinum

Known as milk-and-wine lily, cemetery lily, or even chicken-gizzard lily, *Crinum* occur naturally throughout the tropical and subtropical regions of the world. The name is derived from Greek *krinon*, which means lily. There are more than 100 species and many hybrids of this member of the Amaryllis family.

Among the 30 *Crinum* in the Garden's collection, there are three varieties we have found to be hardy in St. Louis after nearly ten years of experimentation: South African species C. *bulbispermum* and its named selections; C. x *powellii* and C. x *powellii* 'Album'; and C. x *herbertii*. They bloom in early summer and again in fall and are strongly and sweetly fragrant. I recommend them for every St. Louis garden!

Plant hardy *Crinum* bulbs 10–12 inches deep and 2–3 feet apart in well-drained loamy soil in a sunny location in late spring. Give them a few years to fully establish and create large clumps with arching foliage and massive, leafless stems topped with exceptionally fragrant trumpet-shaped flowers in shades of pink and white.

An Update on Growing Camellias in St. Louis

by Larry Enkoji, Senior Horticulturist

Visitors to the Garden in February and March delight their senses with a stroll through the Linnean House, where over 50 different tender camellias are in peak flower. However, the Garden has been testing hardy camellias for outdoor bloom to see if they would survive St. Louis winters.

In 2006, we planted *Camellia oleifera* 'Lushan Snow,' C. 'Winter's Joy,' 'Winter's Star,' and 'Snow Flurry' in the English Woodland Garden. These plants were protected with a burlap "cage" and covered with dry leaves the first winter and were left uncovered during the second winter. 'Lushan Snow' died after its second winter; the others suffered a little dieback after the first winter, but managed to flower a little in late 2007.

In spring 2007, several cultivars of *Camellia japonica*—'Spring's Promise,' 'April Tryst,' 'April Snow,' and 'April Dawn'—were planted in the English Woodland Garden, the Japanese Garden, the Chinese Garden, the Kemper Center For Home Gardening, and the Boxwood Garden. Plants in the Japanese and Boxwood gardens were covered; the rest were left unprotected. All survived their first winter (2007–8) relatively unscathed, with only a few plants showing a little leaf burn. Many plants flowered in December 2007 and went on to flower again the following spring.

Minimum temperatures experienced over the last two winters were +5 to +7 degrees F, however 2008–9 is shaping up to be colder. Most of the cultivars we are trialing are purported to be hardy to -5 to -15 degrees F. The 2007 plants were much larger than those planted in 2006, which could account for the increased vigor. We will be watching to see if they flower this April.

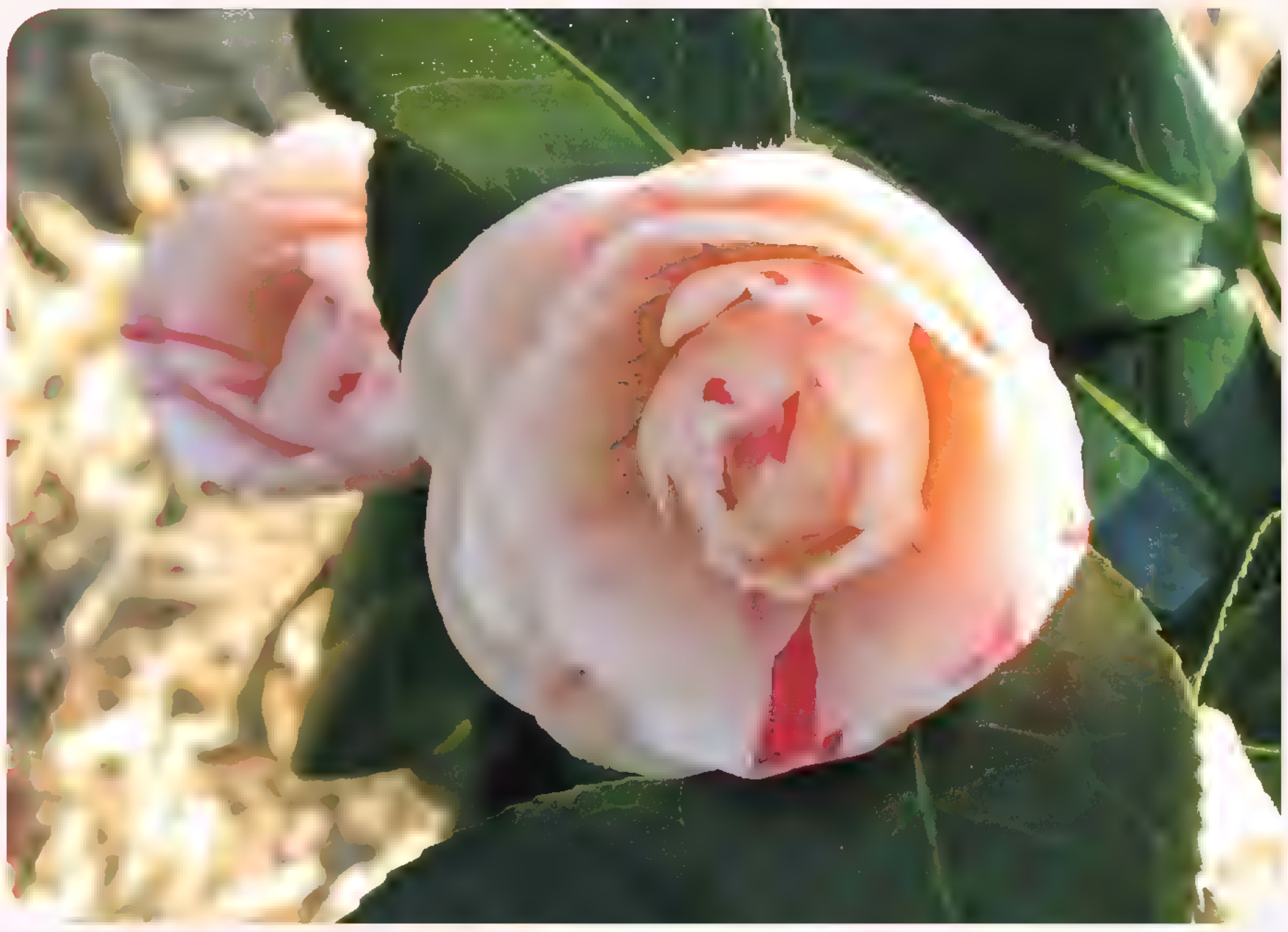


photo by Larry Enkoji

Hardy Camellia japonica *'April Dawn' blooming outdoors in April 2008 in the Kemper Center for Home Gardening demonstration gardens.*

Do You Recycle Your Yard Waste?

Yard waste accounts for nearly 20 percent of our garbage, second only to paper. Try composting yours to keep it out of the landfill.

You may know about the Garden's plastic pot recycling program, a service we provide to recycle your horticultural plastic waste because regular recycling services will not take it. Did you know you can do another form of recycling right in your own backyard? Composting! Composting not only keeps that yard waste out of the landfill, but it benefits your soil organically!

Since the early 1990s, the Missouri Botanical Garden has composted close to 100 percent of the leaves and woody debris from our 79 acres. Check out our composting area just beyond the Doris I. Schnuck Children's Garden, where we move mini-mountains of materials around with tractors and Bobcats. Even so, additional compost is brought in because we use so much of it on our plants as mulch and soil amendment. Lawn clippings are also recycled by our mulching mowers, returning them to the soil.

Composting, in scientific terms, is the biological breakdown of organic matter by microorganisms into dark brown, crumbly humus. After successful composting, volume of material is reduced 70 to 80 percent; best of all, this concentrated organic matter is the best natural enrichment you can add to your soil, thus its nickname by gardeners in the know: "black gold."

Web Resources

Kemper Center for Home Gardening Factsheet: Yard Waste Composting www.mobot.org/gardeninghelp/plantfinder/factsheet.asp?code=12

MU Extension: Making and Using Compost: http://extension.missouri.edu/explore/agguides/hort/g06956.htm

MU Extension: How to Build a Compost Bin: http://extension.missouri.edu/xplor/agguides/hort/g06957.htm

EPA's Composting site: www.epa.gov/osw/conserve/rrr/composting

RecycleNow's "Easy Home Composting": http://www.recyclenow.com/home_composting/making_compost/

Simplified Steps for Home Composting

1. **Collect the "raw ingredients"** | Grass clippings, raked leaves, spent annuals: your yard is full of compostables. So is your kitchen. A glance at the latest Crate & Barrel catalog reveals that composting has gone very mainstream. Envision a sleek stainless steel, carbon-filtered compost pail on your counter top to discreetly capture those fruit and vegetable peels, coffee grounds and tea bags (but no meat and dairy). They'll make a great addition to the pile.
2. **Make a pile** | Or build a bin or buy a tumbler, your call. Be as inexpensive or chichi as you want to be. To grossly oversimplify, composting requires two ingredients: greens and browns. Greens (grass clippings, food waste) supply nitrogen and water. Browns (fallen leaves, shredded paper) provide carbon and fiber. The conventional ratio is 3:1 brown:green, but your ratio can be lower and still work.
3. **"Turn and burn"** | All necessary microorganisms are already present, so no need to add soil. Water until just damp, but not too much. To speed the process, aerate the pile periodically by forking over and watch the pile "cook" for 3-6 months, adding material and turning the pile as you go. (Or don't aerate and wait closer to 9–12 months.)
4. **Apply** | Check the bottom of the pile. Compost is "done" when it appears to be thick, moist soil and gives off an earthy aroma. Compost improves both the physical condition and the fertility of the soil. Mix it into beds, or apply it as a top dressing around plants and shrubs.

For demonstration bins and hands-on interactive information on composting, visit the Garden's Kemper Center for Home Gardening and the Garden's EarthWays Center.

Get Growing this Summer

Grow Your Mind with Fun Summer Learning for Adults and Kids

photo by Jessica Kester

A little sprout has a close encounter with nature inside the Temperate House. The Garden offers summer programs for preschool and school-age children, as well as adults.

Summertime... and the learning is easy! Children of all ages can spend time outdoors, meet new friends, and have fun as they explore the natural world this summer at the Garden and our family of attractions. Learn about botany, ecology, and conservation at the Garden. Discover the planet's many insects at the Sophia M. Sachs Butterfly House. Become a "green" expert at the EarthWays Center, and enjoy nature outings at the Shaw Nature Reserve.

- Enrich your pre-kindergarten child with programs like **Summer Little Sprout**s or **Pitzman Nature Study**. Choose from themed programs on topics ranging from wiggly worms to perfect ponds. For school-age children, five new multi-day **Camp MBG** sessions foster learning about plants and ecosystems, from "Gotta Grow" to "Extreme Botany!"
- At the Butterfly House in Chesterfield, preschool kids can explore **Camp Bugaloo** "Nature's Recycled Alphabet." School-age children, along with their parent or guardian, can investigate insects that swim, jump, dig, and fly in **BUZZ: Lifestyles of the Six-Legged** and **Backyard Science**.
- Grow "green" with summer camps at the EarthWays Center in mid-town St. Louis. **Camp EarthWays: Green Builders** offers options for young as well as advanced green builders.
- The 2,400-acre Shaw Nature Reserve in Gray Summit is an ideal setting for exploring the outdoors through **Pitzman Nature Study** classes for children ages four to six.

For more information, visit www.mobot.org or check out your course catalog.

Children's Garden Season Opener

Wednesday, April 1 through Sunday, April 5, 9 a.m. to 4 p.m.

The Doris I. Schnuck Children's Garden: A Missouri Adventure opens for its fourth season! Join us for the five-day kick-off event. You're invited to become a plant detective, explore the Germination Stations, learn about plants we eat, and make a seed packet to take home. See just how fun nature can be! *Opening festivities sponsored by Macy's.*

Great Green Adventures

New in 2009!

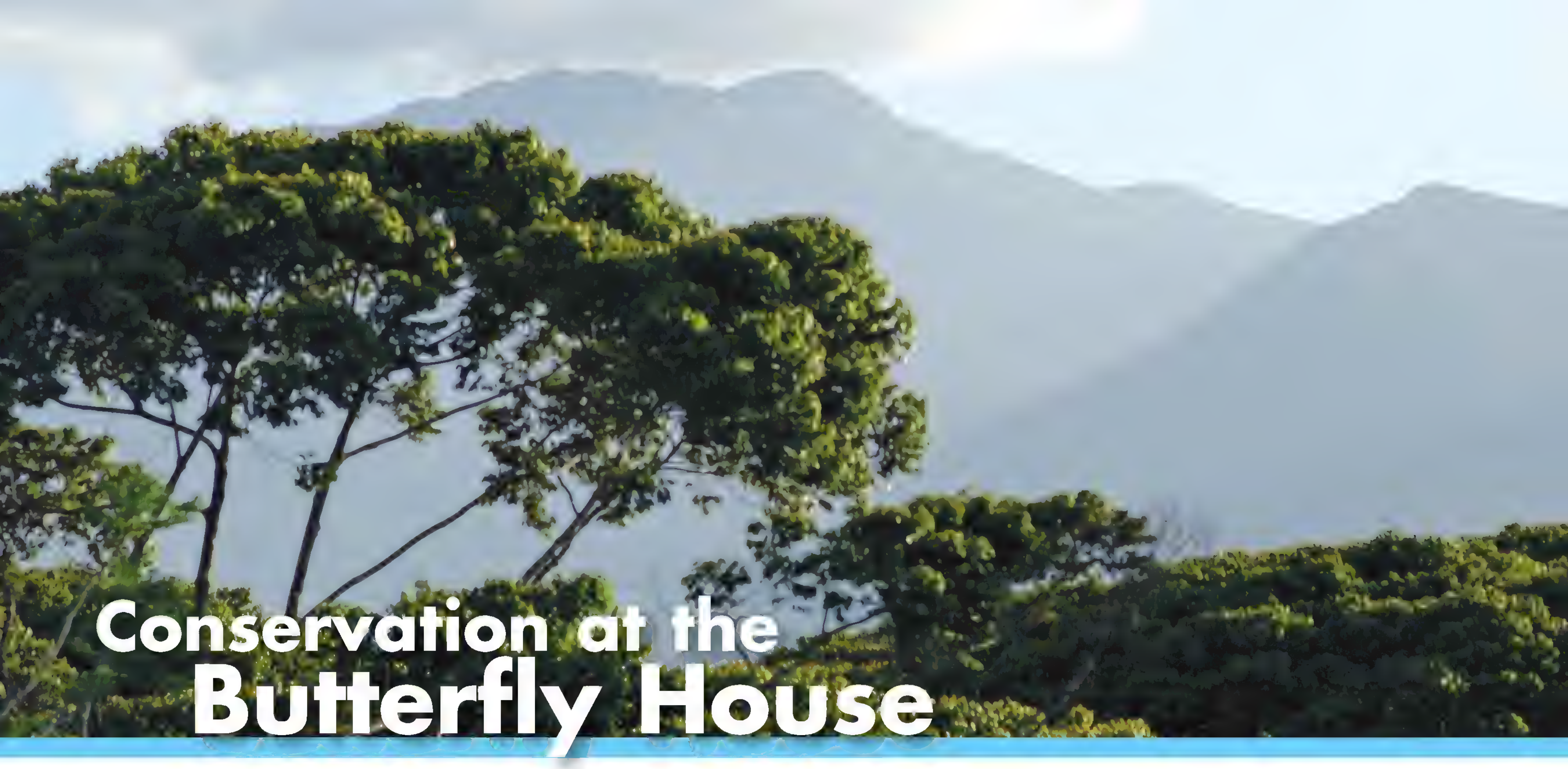
Third Saturday of the month, March through October, 10:30 a.m. or 1:30 p.m.

Join us for these drop-in programs on the third Saturday of each month as we explore special features on the Garden grounds. Each month focuses on a different theme. In March, it's "Signs of Spring." Meet at the Children's Garden Ticket Fort for your hour-long adventure. Recommended for ages 6–12 years with an adult. $3 (free for Garden members). For more information, visit www.mobot.org/finn.

photo by Mark Deering

Got Your Copy?

Get Growing catalogs were mailed to members in January. Garden members enjoy early enrollment and program discounts. For more information or to enroll, visit www.mobot.org/education or call (314) 577-9506.



Conservation at the Butterfly House

View of El Bosque Nuevo butterfly farm and habitat reserve in Costa Rica

by Mark Deering, Curator of Butterflies

Most tropical butterflies live an average of only 2 to 6 weeks as adults, so the Sophia M. Sachs Butterfly House must regularly restock the tropical conservatory. Where do these butterflies come from? How are they faring in the wild when so much of their habitat is being destroyed in the tropics? How do butterfly farms impact the environment? Conservation is an essential element of the Butterfly House mission and operation, and it guides our choices on how living specimens are obtained.

Reproduction of large numbers of tropical butterflies in the U.S. is restricted by the USDA, so all Butterfly House butterflies must be imported. Income from ticket sales, education programs, private events, and the Madame Butterfly Gift Shop are utilized to purchase these fragile insects. El Bosque Nuevo, or "the New Forest," of Costa Rica is a primary supplier. EBN raises and ships hundreds of thousands of butterfly chrysalides each year. Once the adults emerge from their chrysalides at our site, they are released into our tropical conservatory.

EBN is not just a purveyor of farmed butterflies; it is also a conservation organization. Compared to typical farming, EBN's sustainable methods greatly reduce the impact on native butterfly habitats. EBN also utilizes every penny of profit to purchase additional land to be set aside in a protected reserve, with a goal of 10,000 protected hectares (or 24,700 acres). Costa Rican school children regularly visit the farm to learn more about the project. The Butterfly House was the first butterfly client for EBN and has helped promote their project, providing technical operations support as they grow.

The Butterfly House is also part of the Butterfly Conservation Initiative (BFCI), a coalition of facilities dedicated to the conservation of threatened and endangered North American butterflies and their habitats, which has been instrumental in recovery programs for the Karner blue, Miami blue, Oregon silverspot, and many other butterflies here in the United States.

Butterfly House

15193 Olive Blvd., Chesterfield, MO 63017
(636) 530-0076 • www.butterflyhouse.org

March Morpho Mania™

This March, visitors to the Butterfly House receive a treat when over 1,000 big, blue morphos take flight. All month long, hundreds of butterflies will be released on weekends inside the tropical conservatory. Saturday releases at 11 a.m. and 2 p.m., Sundays at 2 p.m. Don't miss this dramatic sight!
Sponsored by Novus International, Inc.

Special for members...
On Wednesday, March 11, at 11 a.m., the Butterfly House welcomes Garden members for a special morpho presentation, release, and talk about the conservation butterfly farms where these beauties are raised in Costa Rica.

SHAW NATURE RESERVE

Hwy. 100 & 44 (exit 253), Gray Summit, MO 63039
phone: (636) 451-3512 • www.shawnature.org

photo by Susan Flowers

Students conduct chemical tests on Wolf Run Lake at the Shaw Nature Reserve.

Making Natural Connections at Shaw Nature Reserve

by Lydia Toth, Senior Education Manager

Will the next generation produce enough plant educators, botanists, plant scientists, and environmental scientists to sustain our society? A new program at the Shaw Nature Reserve works to foster connections to the natural world that might spark an environmental vocation.

The Shaw Institute for Field Training, or SIFT, immerses high-school students in the actual elements of biology research. The program, funded through a five-year grant from the National Science Foundation, is a partnership between Washington University's Tyson Research Center and the Shaw Nature Reserve.

Starting last summer, 45 students from 28 area high schools participated in an intensive five-day program at Shaw Nature Reserve. These high-school juniors studied Missouri ecology and performed actual field research. Students worked in collaborative groups exploring the Reserve with maps, compasses, and GPS units. One of the highlights of the week was an overnight at the Dana Brown Overnight Center, during which five graduate student scientists from Tyson Research Center joined the group for dinner. The field scientists talked with the SIFT students about their various research projects and answered students' questions about the paths that led them to careers in environmental biology. "There is so much more to this field than I imagined," one student remarked. "I can work outdoors and in the lab…two things that I really love!"

During the fall term, students worked side-by-side with scientists, collecting seeds at Shaw Nature Reserve, monitoring stream quality, planting trees in Forest Park, and studying the effects of invasive plant species on animal populations at Busch Conservation Area.

A select group of this year's SIFT students will be offered Tyson Environmental Research Fellowships this summer. These students will spend four weeks in the field with researchers working on long-term experiments related to biodiversity, conservation, and habitat restoration. The teens will continue to work with project scientists during the school year, analyzing the results from their field studies and presenting their findings.

"We are thrilled to be able to offer this unique opportunity to high school students," says Susan Flowers, project director. As one group of students moves on to fellowships, another cadre of SIFT will begin. Interested students should contact Lydia Toth at the Shaw Nature Reserve at (636) 451-3512 ext. 6006.

Members' Day

Friday, April 24, 9 a.m. to noon
Meet at the Bascom House for a one-hour walking tour of the Whitmire Wildflower Garden, with refreshments at the carriage house, followed by a presentation on native plants.

photo by Ken Gilberg

Spring Wildflower Sale

Saturday, May 9, 9 a.m. to 4 p.m.
The widest selection of native plants available in the metro St. Louis area! Browse hundreds of varieties of annual and perennial wildflowers, ferns, trees, and shrubs to use in sun or shade home landscaping, including many varieties that attract birds and butterflies.
Members' Preview Sale:
Friday, May 8, 4 to 7:30 p.m.

Got Incentive?

by *Jean Ponzi, Green Resources Manager*

EARTHWAYS CENTER

3617 Grandel Square, St. Louis, MO 63108
phone (314) 577-0220 • www.earthwayscenter.org

Learn Green – Live Green

With the greening of mainstream America, many people feel we should invest in renewable energy. Missourians resoundingly passed the Missouri Clean Energy Initiative (Proposition C) on last fall's ballot. However, Prop C is subject to a year of Public Service Commission rulemaking. In the meantime, what's a concerned consumer to do? Luckily, there are a variety of incentives available to area homeowners this year to help you go green—and save green—with energy-efficient systems and appliances.

Incentive 1: Sales-tax holiday. During the week of Earth Day this year, April 19–25, the state of Missouri will waive state sales tax on ENERGY STAR-qualified appliances (up to a sticker price of $1,500 per appliance). This includes all major kitchen and laundry appliances, water heaters, air conditioners, and furnaces. And, since ENERGY STAR-qualified appliances can be up to 50 percent more efficient than conventional models, you will save even more money with lower energy bills in the future.

Incentive 2: Tax deduction. Missourians can claim a new state tax deduction to offset the costs of a state-certified home energy audit and implementing recommended efficiency measures. Audits and improvements conducted through Home Performance with ENERGY STAR, a program regionally coordinated by the Garden's EarthWays Center, qualify for the deduction—and if you put the findings into practice, you'll save even more in efficiency.

Incentive 3: Rebates. The Illinois Renewable Energy Resources Program offers rebates of up to 30 percent of residential solar power system costs, with a maximum award of $10,000. Administered by the Illinois Department of Commerce and Economic Opportunity, the program applies to homeowners, businesses, and public buildings.

photo by Dale Dufer

Solar panels power the EarthWays Center's kitchen appliances and outdoor lighting.

In addition, the federal financial package, or Emergency Economic Stabilization Act of 2008, provides tax credits for residential installation of solar and wind power systems, geothermal heat pumps, and certain types of biomass-fuel stoves and water heaters, and for buying plug-in electric cars and light trucks. The measure extends existing energy-efficiency tax credits for both home improvements and new homes through 2009.

Making buildings energy efficient makes sound fiscal and environmental sense, even more so in these tight economic times. Incentives help make these efforts possible. Protecting our economic and environmental future through energy conservation should be a priority.

Resources for more information on U.S., state, and local energy incentives

For updated incentive program listings and links visit www.earthwayscenter.org.

- Alliance to Save Energy
  www.ase.org
- American Solar Energy Society
  www.ases.org
- Directory of State Incentives for Renewable Energy
  www.dsireusa.org
- Illinois DCEO
  www.commerce.state.il.us
- Home Performance with ENERGY STAR
  www.earthwayscenter.org/homeperformance
- Local utility rebates
  www.lacledegas.com
  www.actonenergy.com
- Missouri Department of Natural Resources Energy Center
  www.dnr.mo.gov/energy

Travels with Henry Shaw

continued from page 7

July 16, 1840. Took passage on board the fine Lake Steamer *Great Western*—distance to Buffalo computed at 1200 miles. From the novelty found Lake traveling quite aggreable—the coolness of the air and purity and clearness of the water quietly contrasts to that of the Mississippi.

July 17, 1840. Had an interesting view of the Manitou and other islands at head of Lake Michigan—all as well as the main shore appeared uninhabited—except the west side—we have pass'd several little towns in the territory called Wisconsin.

July 18, 1840. One o'clock this morning came to at the island of Michilimackinac—being a clear moonlight, went on shore—intended to have left the boat and run around a couple of days, but found the accomdations for travelers very indifferent—found a number of Indians encamped—they had arrived the day before in their bark canoes—the place has much the appearance of a Canadian village—the fort is on a commanding position above the town—the place is celebrated for the purity of its climate—and tho in the midst of summer found a great coat very comfortable—at half past two in the morning observed a brightening in the sky in our direction—which took first for the Aurora Borealis—but this brilliancy increasing found it to be in the East and to be "Aurora goddess of the morn."

July 19, 1840. Sail'd thro the wide waters of Lake Huron—and at ten o'clock this morning arrived at the city of Detroit—being Sunday morning found the people at church—went in for a few minutes to the Presbyterian—and then to the Catholic church—they were singing the anthem the female voices were pleasing and unaffected—there are a number of painting—the most conspicuous next to the alter piece (a holy family) is a robust figure of St. Peter—lastly, call'd in at the Episcopal church—where everything appeared to be in perfect order—and a most respectable congregation—left at Detroit in the evening and passed down the river St. Clair the banks of which are with cottages and orchids—to Lake Erie.

July 20, 1840. Before rising from our confined births have landed at the pier at the port of Cleaveland [sic] in Ohio—a bustling place of trade—and a great deal of the mock magnificient in their recently erected houses and hotels—a heavy swell in the lake this evening which made the upper cabins of the *Great Western* roll dreadfully.

July 21, 1840. At two o'clock this morning came to the termination of our lake voyage by arriving at the flourishing port of Buffaloe [sic]—so increased as scarcely to be recognized as the Buffaloe of 15 years ago—and evidences of a more extensive commerce than has yet observed at any place since leaving St. Louis—the American Hotel a magnificent building and others of much magnificence and splendor. Buffaloe is indebted to the enterprise of a forger on a scale of grandeur on a par with this building—is now in the Penitentairry—and name of will long remain a terror to evil doers—came by stage to Battavia and thence by Rail Road to Rochester where I arrived in a thunder storm and at last have the pleasure of joining my dear old parents—an obligation that I have had on my mind so many years and very thankfull to find them in good health and to a good providence that has once more restored them to me—my sisters also in appearance much better than from previous ill health had any expectation of finding—am much pleased with their neat comfortable little dwelling—which I have facetiously named "Economy Hall"—also with their little circle of friends to whom there appears to be a tried and sincere attachment.

July 22 and 23. Spent with my family at Rochester.

To be continued…

To follow Henry on his travels, visit www.mobot.org and click on "Travels with Henry."

Tour Shaw's Home

Tuesday through Saturday, 10 a.m. to 4 p.m., Sunday 1 to 4 p.m., closed Monday. Open annually April through December

Take a step back into time at Tower Grove House, Henry Shaw's country home. View artifacts and furniture that belonged to Shaw. The Garden has grown over the last 150 years. Come see where it all began!

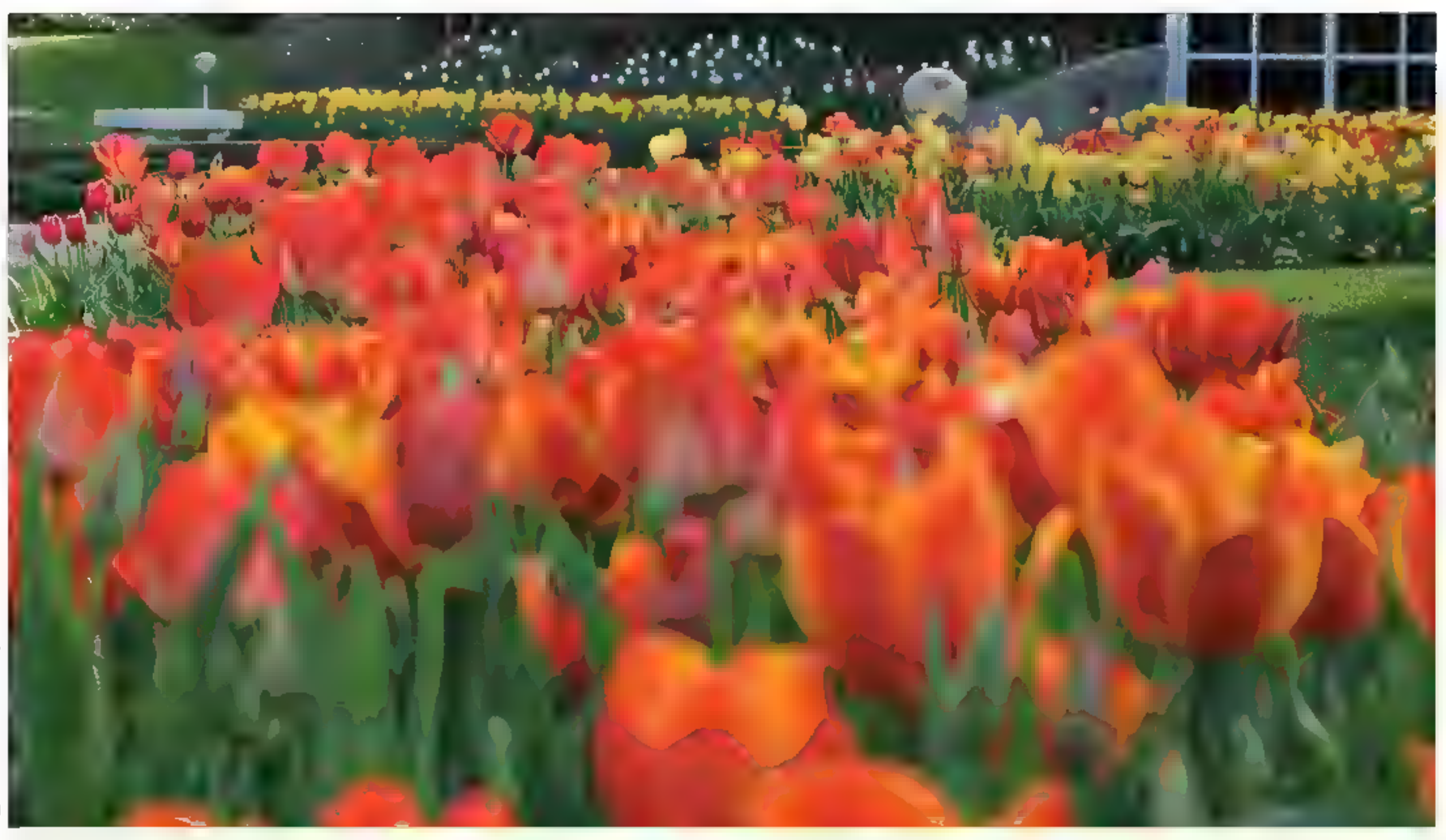


photo by Heather Marie Osborn

Tributes *November through December 2008*

A tribute gift to the Garden is a wonderful way to honor family and friends. Tributes of $25 and up are listed in the *Bulletin*. If you have questions regarding giving opportunities at the Garden, please call (314) 577-5118. You can also make a tribute gift online at our website, www.mobot.org.

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Mr. and Mrs. Stephen Lage

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Dr. and Mrs. Gregory A. Storch

Mrs. Jacqueline Weigel
Mrs. Helen T. Gregory

Mother of Anabeth Weil
Mr. and Mrs. Charles P. Reay

Mr. William A. Williams
Mr. and Mrs. William Stern

Sophia M. Sachs Butterfly House Tributes & Pavers

To learn more about these opportunities, call (314) 577-0291 or www.butterflyhouse.org.

Tributes and Pavers dedicated at the Sophia M. Sachs Butterfly House in November through December 2008

Tributes

In Honor of

Sophia M. Sachs Butterfly House
Josh Kelley
Cat Wittmer
Anonymous

In Memory of

Doloris Dee Sherman
Cuba United Methodist Church

Pavers

Mary Brauss
HNJ Catholic Credit Union

Virgil, Emma, and Connie Foley
Mr. and Mrs. Roger Lindgren

Donna Jean Herr
St. Louis County Department of Health – Corrections

Joyce Treuel Jessen
Ms. Joan M. O'Malley

Susan Syrup
Mr. Edward Syrup

Kara Aya-Welland
Kyra Cass, Susie Brown, Erica Davis, Shena Jaffee, and Karen Taylor

Members' Entry Court

Bricks from November through December 2008.

Engraved clay bricks and signature bronze bricks are a wonderful way to commemorate any special occasion, as well as final memorials. For additional information regarding the Garden's brick program, please contact the Institutional Advancement Office at (314) 577-0291 or visit www.mobot.org.

Signature Bronze Brick

Susan J. Syrup
Mr. Edward Syrup

Engraved Clay Bricks

Leroy Boyd
Mr. and Mrs. Grahame Rhodes

Richard McCue Calhoon
The Missouri Valley RGO

Carol Lark
Mr. John D. Lark

Mary Ellen Lutz
Ms. Becky R. Shelton

Sandy and Jim Phfistner
Dr. Ralph Olliges

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Mr. R. Larry Sherwin

Ron and Elaine Snowden
Ms. Elaine E. Brazinski

Ruth and Glenn Sweet
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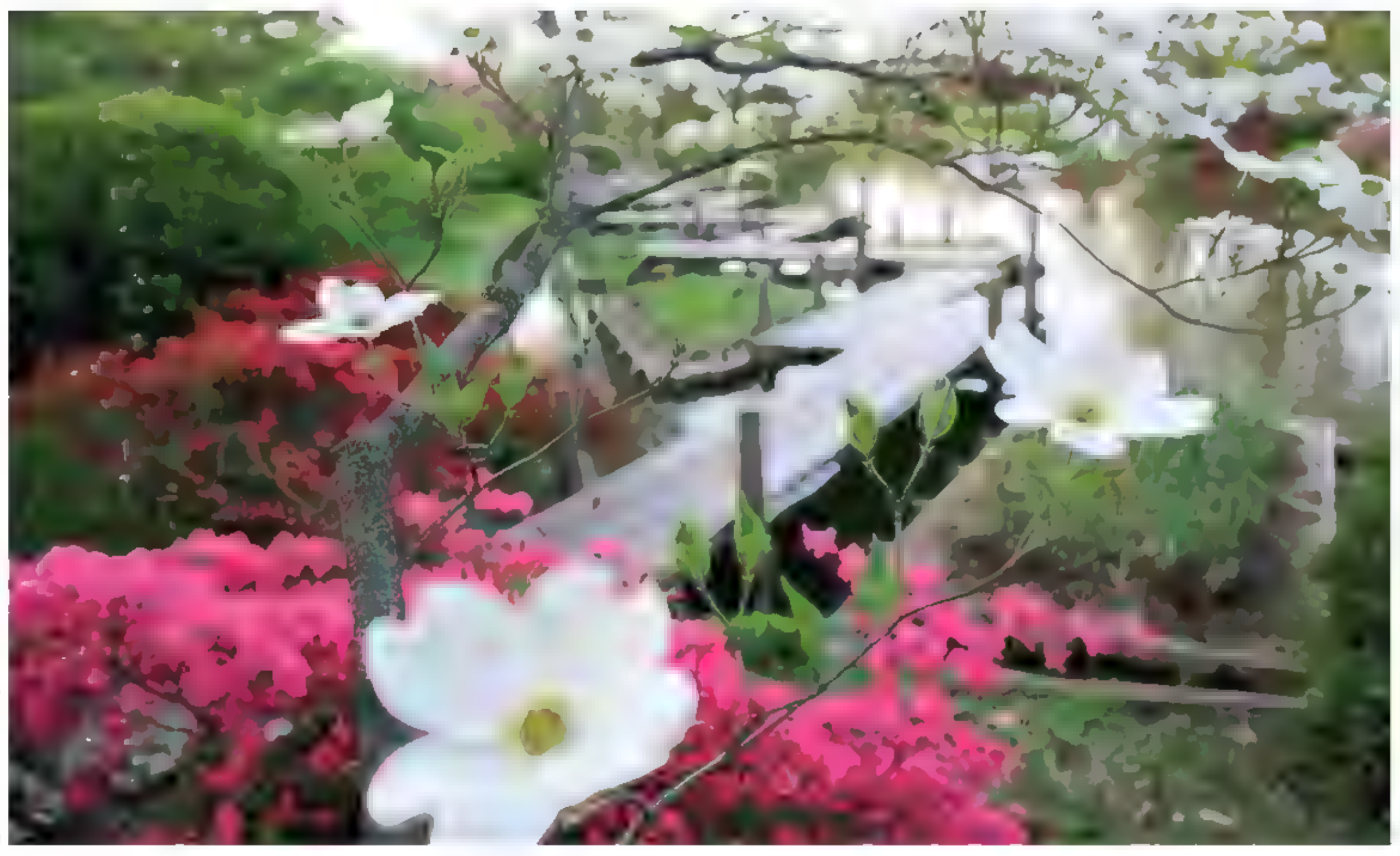


photo by Heather Marie Osborn

Create a legacy

By leaving a bequest to the Garden, you create a legacy that will benefit others for generations to come. If you have already included the Garden in your estate plans, we hope that you will share this information with us. We would like to express our gratitude and welcome you into the Heritage Society. Of course, your wishes for anonymity are respected. Please call (314) 577-9495 for further information, or visit our website at www.mobot.org. Click on Donate, then Planned Giving.

Get fresh!

Spring means a burst of new life at the Garden… and on the table! Nothing says "fresh" like herbs you grew yourself in your own herb garden! It's easy, healthy, affordable, and fun! Stop by the Garden Gate Shop and find all you need to get growing. You can also shop online at www.gardengateshop.org. Questions or comments, call us at (314) 577-0865.

GARDEN
GATE SHOP.ORG

All proceeds benefit the Missouri Botanical Garden.

clip and save

March Events

Visit www.mobot.org for the latest information.

photo by Heather Marie Osborn

Bloomin' Bulbs for the 150th!

Bulbs enjoy a distinguished place in Garden history. The Garden's displays drew large crowds in the early 20th century. One newspaper headline read "Tulips Amaze Thousands. Autos Line Both Sides of the Avenue for Two Blocks at Shaw's Garden"—no small feat in 1913!

In celebration of the Missouri Botanical Garden's 150th anniversary, several historic varieties of bulbs have been added to the Samuels and Heckman bulb gardens, where over 90,000 bulbs bloom, including *Narcissus* 'Conspicuus' (1869), 'White Lady' (1897), 'Seagull' (1868), 'Stella' (pre-1869), 'Empress' (1869), 'Queen of the North' (1908), and 'Sir Watkin' (1868).

In the Victorian era of Garden founder Henry Shaw, hyacinths were the most popular spring bulb of all. In keeping, new historic hyacinths have been added to the bulb collections, including *Hyacinthus* 'Chestnut Flower' (1880), 'City of Haarlem' (1893), and 'Madame Sophie' and 'Jan Bos' (1927).

In addition, a vibrant new display of over 10,000 bulbs will greet our springtime visitors. Construction should be complete on the Garden's new main entrance, and the central median and surrounding beds will put on quite a show. Horticulturist Paul Hampton created the design, which includes 1,500 giant flowering onions *Allium* 'Globemaster' with their gorgeous purple heads almost 10 inches across!

Photography Workshop with Linda Rutenberg

Friday–Saturday, March 6–7, $258 ($210 Garden members)

Experience a rare opportunity to have the Climatron as your "studio" after dark, with international photographer Linda Rutenberg. Linda will demonstrate her unique lighting techniques and will assist you in learning about the mysterious world of photographing flowers at night. Workshop is limited to ten participants, so register today at www.mobot.org.

photo by Brian Mueller

March Morpho Mania™ ✿

Wednesday, March 11, 11 a.m.,
Sophia M. Sachs Butterfly House

Big, bright blue morpho butterflies are our visitors' favorite, and more than 1,000 will be released at the Butterfly House Tropical Conservatory. Learn more about butterfly farms and where these tropical beauties are raised in Costa Rica. *Sponsored by Novus International, Inc.*

☺ = fun for families
✿ = members' event

From the Garden, Live®

Sundays, March 15–April 19, noon,
Shoenberg Theater

Classic 99's "From the Garden, Live"® is a free concert series featuring prominent St. Louis musical groups. Tickets required. Visit www.classic99.com/pgarden.htm for information.

"Contain Yourself": Tips on Container Gardening ✿

Thursday, March 19, 11 a.m.,
Shoenberg Theater

Whether it's a hanging basket, wooden barrel, or oversized flower pot, learn the best tips and techniques to plant and care for your container garden from a local expert from Sugar Creek Gardens.

Horticultural Therapy ☺ Awareness Day

Saturday, March 21, 10 a.m. to 3 p.m.,
Ridgway Visitor Center

Plants and gardening provide many physical and mental benefits by reducing stress, gently exercising aging joints, and stimulating memories. Join us for activities for all ages. Kick-off includes award presentation by the Governor's Council on Disability.

GLOBAL GARDEN Speaker Series

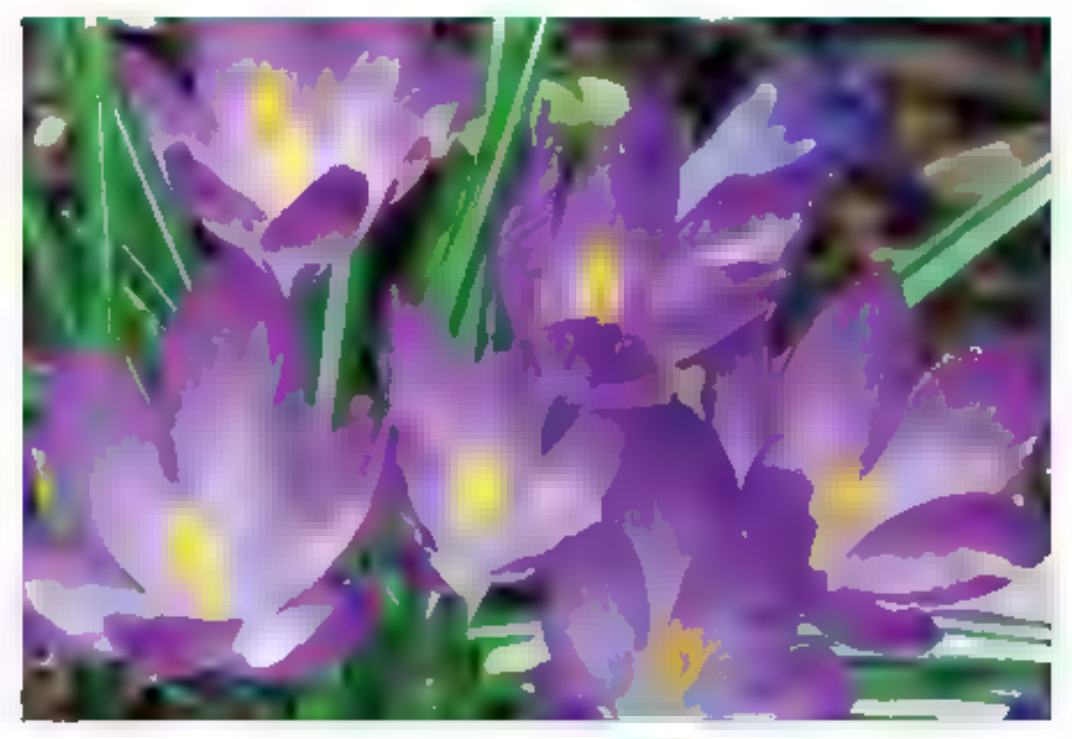
Celebrity experts address today's most important issues impacting the planet. Details and tickets are available online on the Garden's website, www.mobot.org.

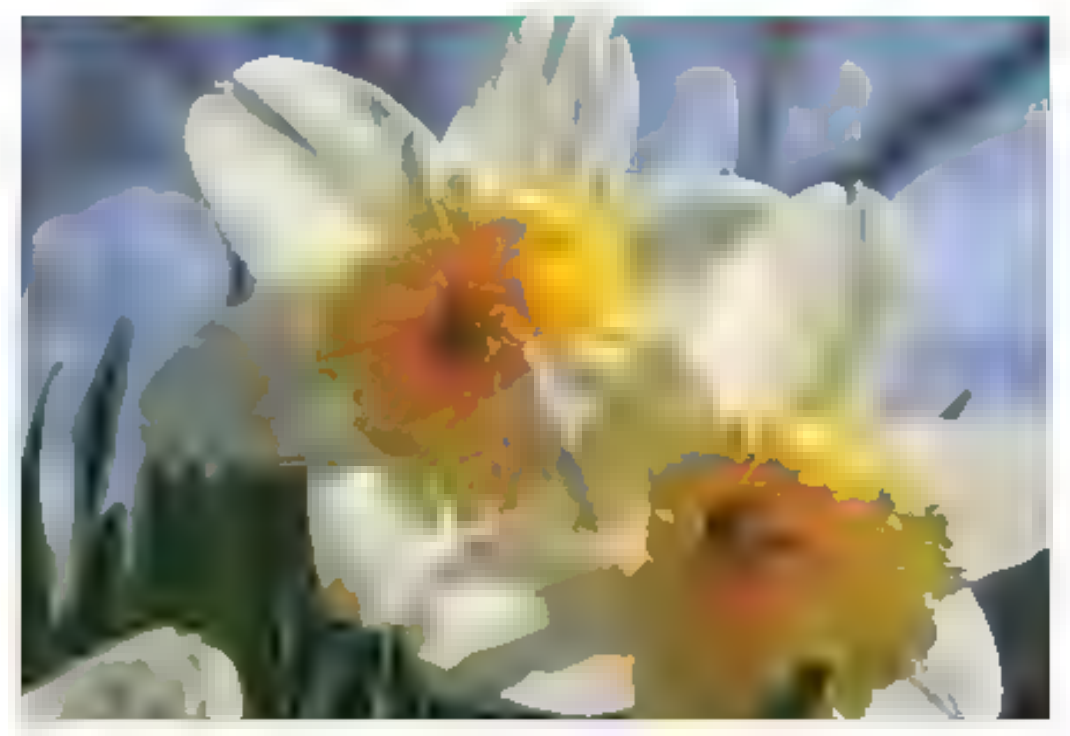
March 2009

average temperature: low 36.2°, high 55.4°
average monthly precipitation: 3.6 in.

What's in bloom?

download the podcast at www.gardeninghelp.org

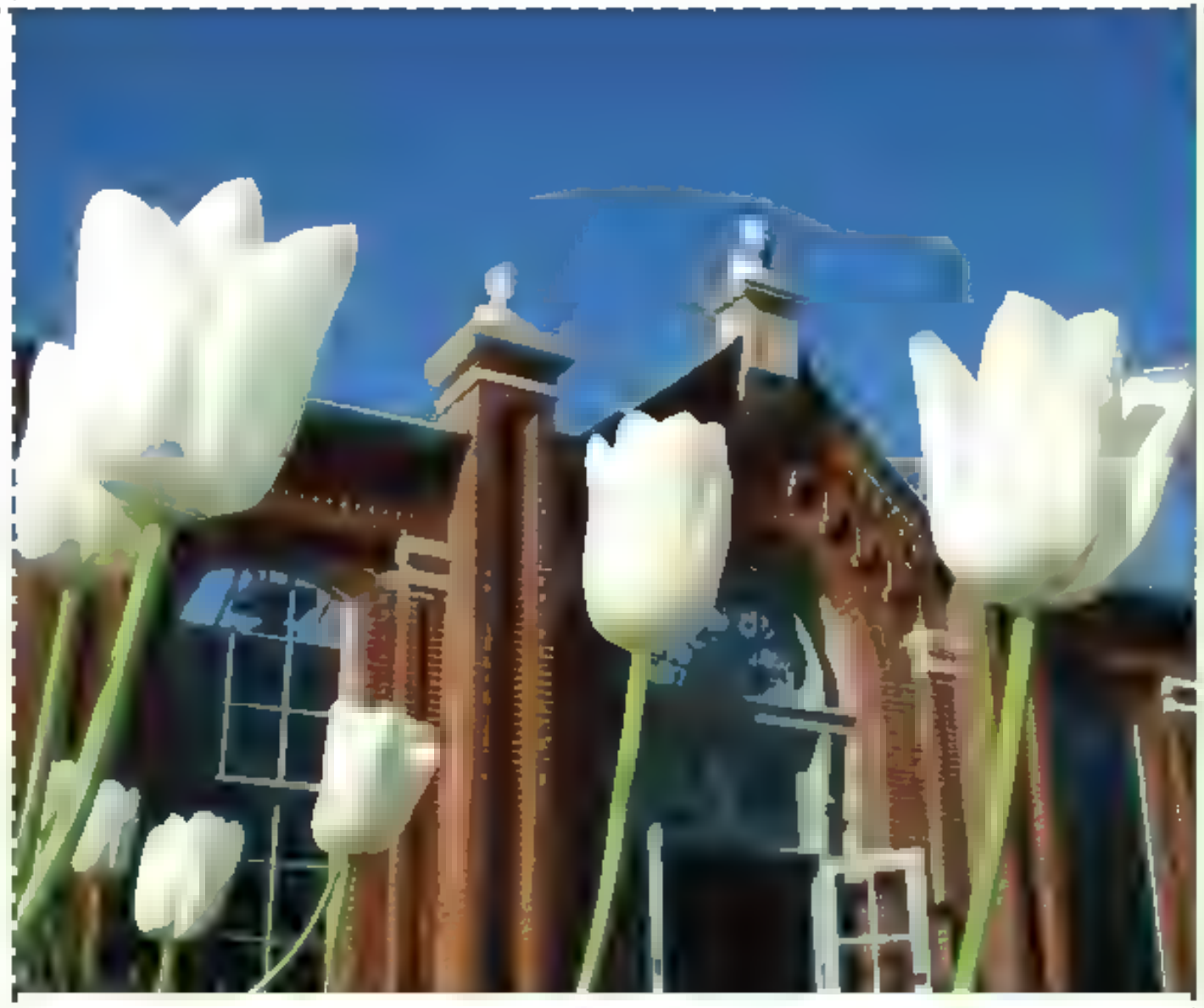

crocus


daffodil

hyacinth

forsythia

magnolia

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
01 	02 Henry's Garden **Last two weeks!** Don't miss this year's Victorian orchid show in honor of our 150th anniversary.	03	04	05	06 Linda Rutenberg photography workshop. $☎	07 Linda Rutenberg photography workshop. $☎ March Morpho Mania™, 11 a.m. and 2 p.m. BH
08	09	10	11 ✿ Members' Event: March Morpho Mania™, 11 a.m. BH	12 Native Plant School: Propagation from Seed. 1 to 4 p.m. SNR $☎	13	14 Book signing: Becky Homan, Anita Joggerst, James A. Fizzell. 12 to 2 p.m. GGS March Morpho Mania™, 11 a.m. and 2 p.m. BH
15 Last day of the orchid show From the Garden—LIVE! noon, ST	16	17 ST. PATRICK'S DAY	18	19 ✿ Members' Event: Contain Yourself, 11 a.m. ST	20	21 Horticultural Therapy Awareness Day, 10 a.m. to 3 p.m. RC ✿ New Member Orientation, noon, ST March Morpho Mania™, 11 a.m. and 2 p.m. BH Public Tour Days, EWC
22 From the Garden—LIVE! noon, ST Public Tour Days, EWC	23	24	25	26 Global Garden Speaker Series: Chris Kilham, 2 and 7 p.m., ST $☎	27	28 Greater St. Louis Daffodil Society show, noon to 5 p.m., RC Spring Bulb Sale! GGS. Green Living Class: Leaving for the Landfill, 8:30 to 11:30 a.m. EWC $☎ March Morpho Mania™, 11 a.m. and 2 p.m., BH
29 Greater St. Louis Daffodil Society show, 9 a.m. to 5 p.m. RC Spring Bulb Sale! GGS. From the Garden—LIVE! noon, ST BUZZ: Arthropod Warriors. 12:30 to 2 p.m. BH $☎	30	31				

KEY *(All events take place at the Garden unless otherwise noted.)*

CA = Cohen amphitheater
CL = Climatron lawn
GGS = Garden Gate Shop in RC
JE = Jordan Education Wing in RC
KC = Kemper Center for Home Gardening
SP = Spink Pavilion
RC = Ridgway Center
SS = Sassafras, the Garden's café in RC
ST = Shoenberg Theater in RC

Off-site locations:
BH = Butterfly House, (636) 530-0076
EWC = EarthWays Center, (314) 577-0220
LS = Little Shop Around the Corner, (314) 577-0891
SNR = Shaw Nature Reserve, (636) 451-3512

✿ Members-only event
☎ Reservations required, please see event details or call (314) 577-9400.
$ Fee

photos by Cynthia Lancaster, Jennifer Meinhardt, brian Mueller, Heather Marie Osborn, and John Smelser.

April Events

Visit www.mobot.org for the latest information.

photo by Josh Monken

Chinese Culture Days ☺

Dancers and Dragons, Tea and T'ai Chi

Saturday–Sunday, April 25 & 26, 10 a.m. to 5 p.m.

The Garden's annual celebration of Chinese arts, culture, and cuisine kicks off Saturday with the Grand Parade and a colorful, 70-foot dancing dragon. New this year is a fashion show featuring both traditional and contemporary Chinese couture. Try t'ai chi, taste tea, and learn about our own Chinese garden in this Year of the Ox, a year of prosperity through fortitude and hard work. Admission is $12 adult ($5 for Garden members). Download the complete schedule of events from the Garden's website: www.mobot.org.

With sponsorship provided by Novus International, Inc.

☺ = fun for families
✿ = members' event

Arbor Day Sapling Giveaway

Friday, April 3, 9 a.m.
Kemper Center for Home Gardening

The Kemper Center for Home Gardening will give away willow oak (*Quercus phellos*), flowering dogwood (*Cornus florida*), pawpaw (*Asimina triloba*), and fringe tree (*Chionanthus virginicus*) saplings on a first-come, first-served basis, one per visitor, while supplies last. Master gardeners will be present to answer questions and give advice.

photo by Josh Monken

Eggstravaganza ✿ ☺

Saturday, April 4, 10:30 a.m. to noon,
Climatron lawn

Hop on over to the Garden for our annual Eggstravaganza egg hunt! Meet the "Bunny" while the little ones (ages 2–10) hunt for eggs. Egg hunts begin promptly at 10:30, 11, 11:30 and noon, so please be sure to allow enough time to walk to the Climatron lawn. Space is limited, so call (314) 577-9570 or visit www.mobot.org/membership.

Beautiful Bulbs ✿

Wednesday, April 15, 11 a.m.,
Heckman Bulb Garden

Join Garden horticulturalist and bulb specialist Jason Delaney for a walking tour as he shares his best tips and ideas for designing unique bulb gardens.

Herb Days

Thursday–Saturday, April 16–18,
Garden Gate Shop

St. Louis Herb Society presents a wide selection of potted fresh herbs, including new and hard-to-find varieties. The society's popular cookbook, periodicals, and curry powder will also be available. Society members will be present to give demonstrations and advice. Members' preview sale: April 16, 9 to 11 a.m.

Earth Day ☺

Saturday, April 18, 10 a.m. to 3 p.m.

Learn how you can participate in a healthy future for planet Earth from Earth Share environmental organizations. Behind-the-scenes greenhouse tours at 10 a.m., noon, and 2 p.m. Bluegrass music from 1 to 3 p.m.

Eco-Expo ☺

Saturday–Sunday, April 18–19,
St. Louis Science Center Exploradome

Presented by the Garden, this two-day event features exhibits for all aspects of your green lifestyle, from home building and construction to eco-fashion and beauty. See for yourself the latest and greatest tips and demonstrations for an environmentally sustainable lifestyle. Enjoy home-grown musical artists in the beer garden. Children can explore the wonders of science in the green experiments lab.

Tower Grove House Auxiliary Goes Green

Thursday, April 30, 8 a.m. to 4 p.m.

Join us for a green-living bus tour. Tour departs the Garden and heads to the Shaw Nature Reserve, where we'll enjoy the native plant gardens and lunch. In the afternoon, we visit the EarthWays Center to see green living in action. $55 ($50 for Garden members). Reserve your space by April 11; call (314) 577-9506.

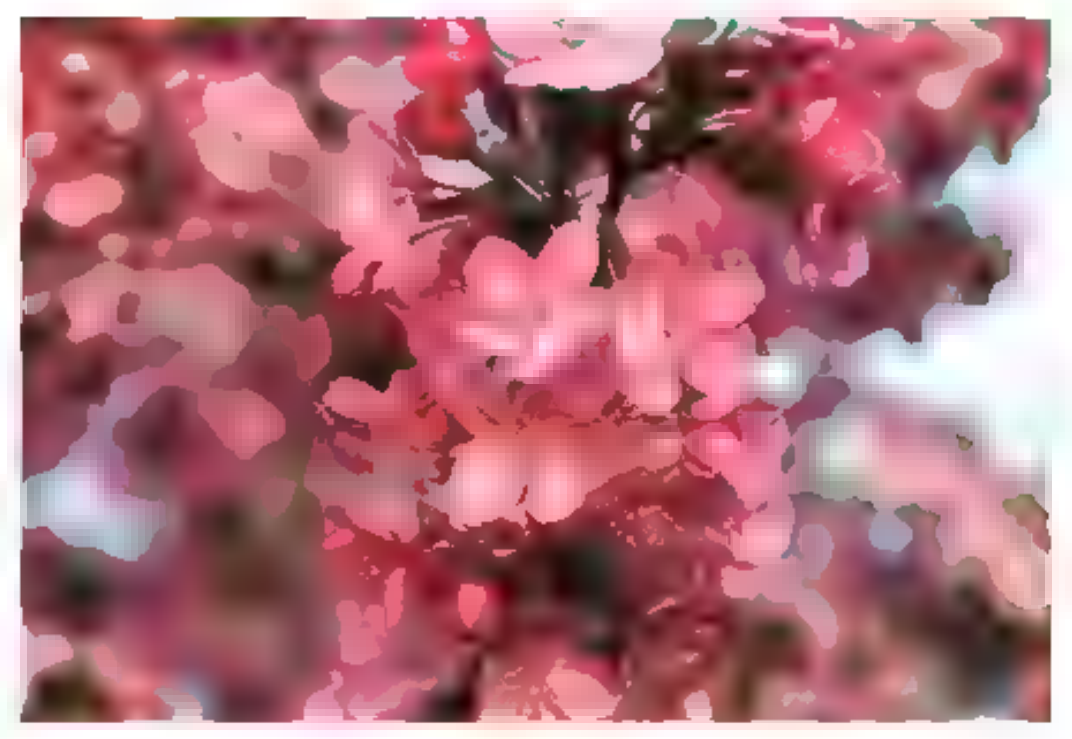
April 2009

average temperature: low 46.5°, high 66.7°
average monthly precipitation: 3.69 in.

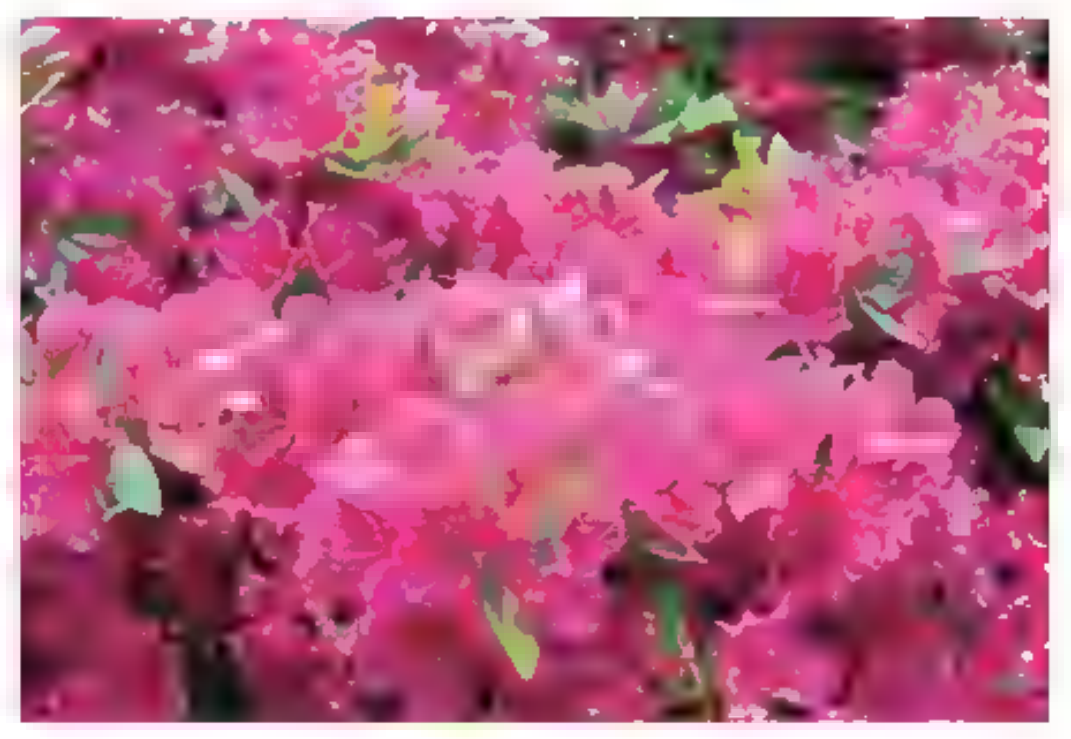
What's in bloom?

download the podcast at www.gardeninghelp.org

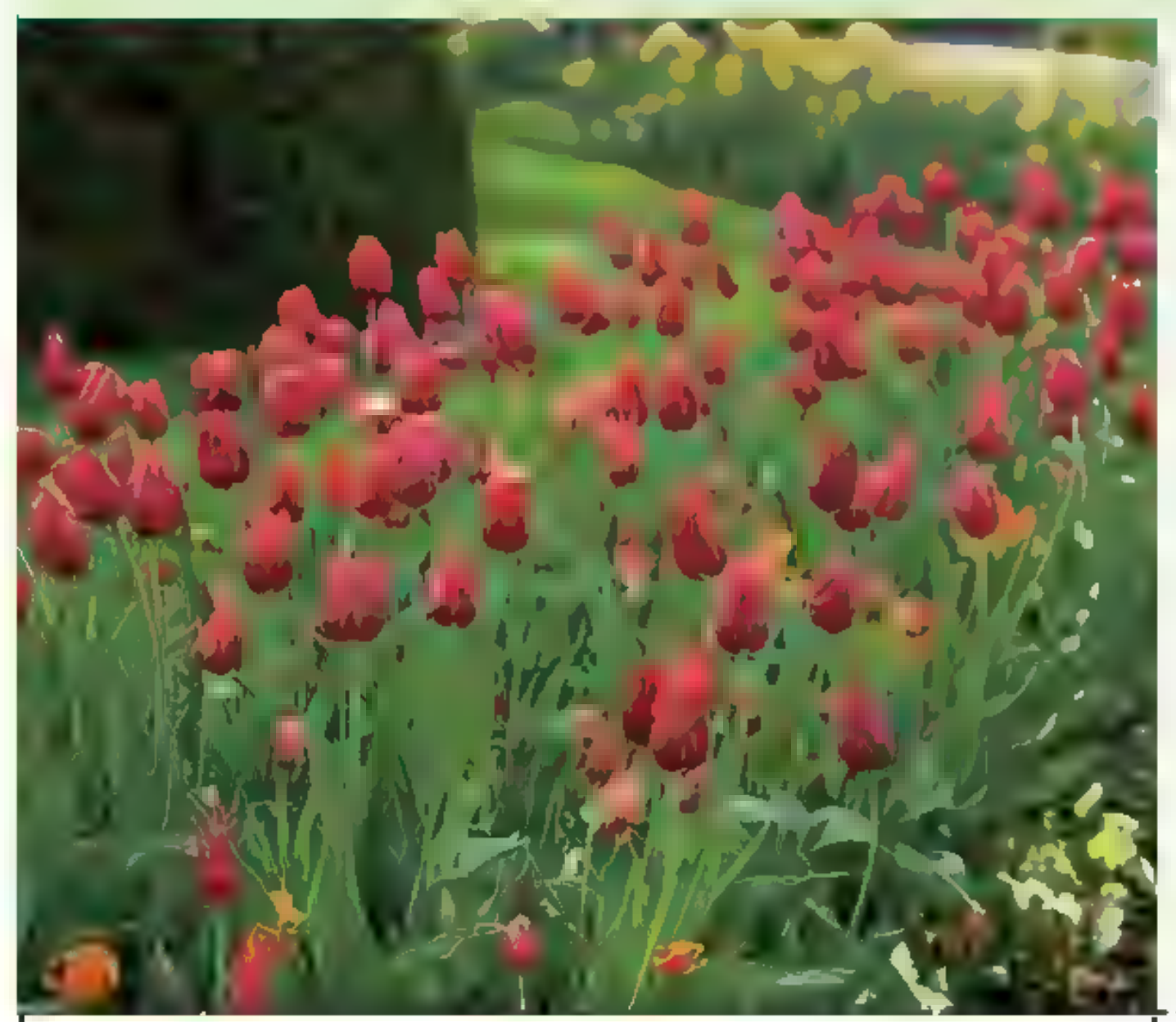
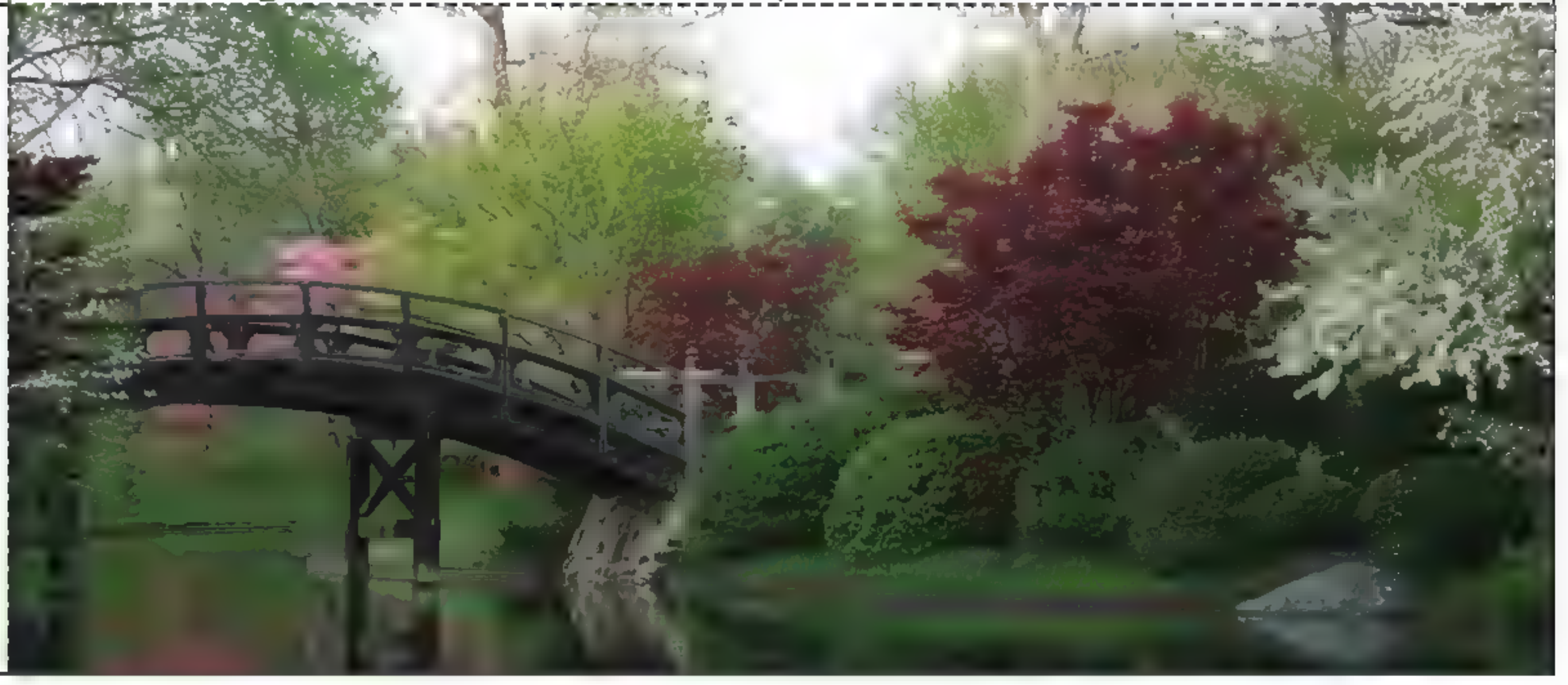
tulips


crabapple

wild geranium


azaleas

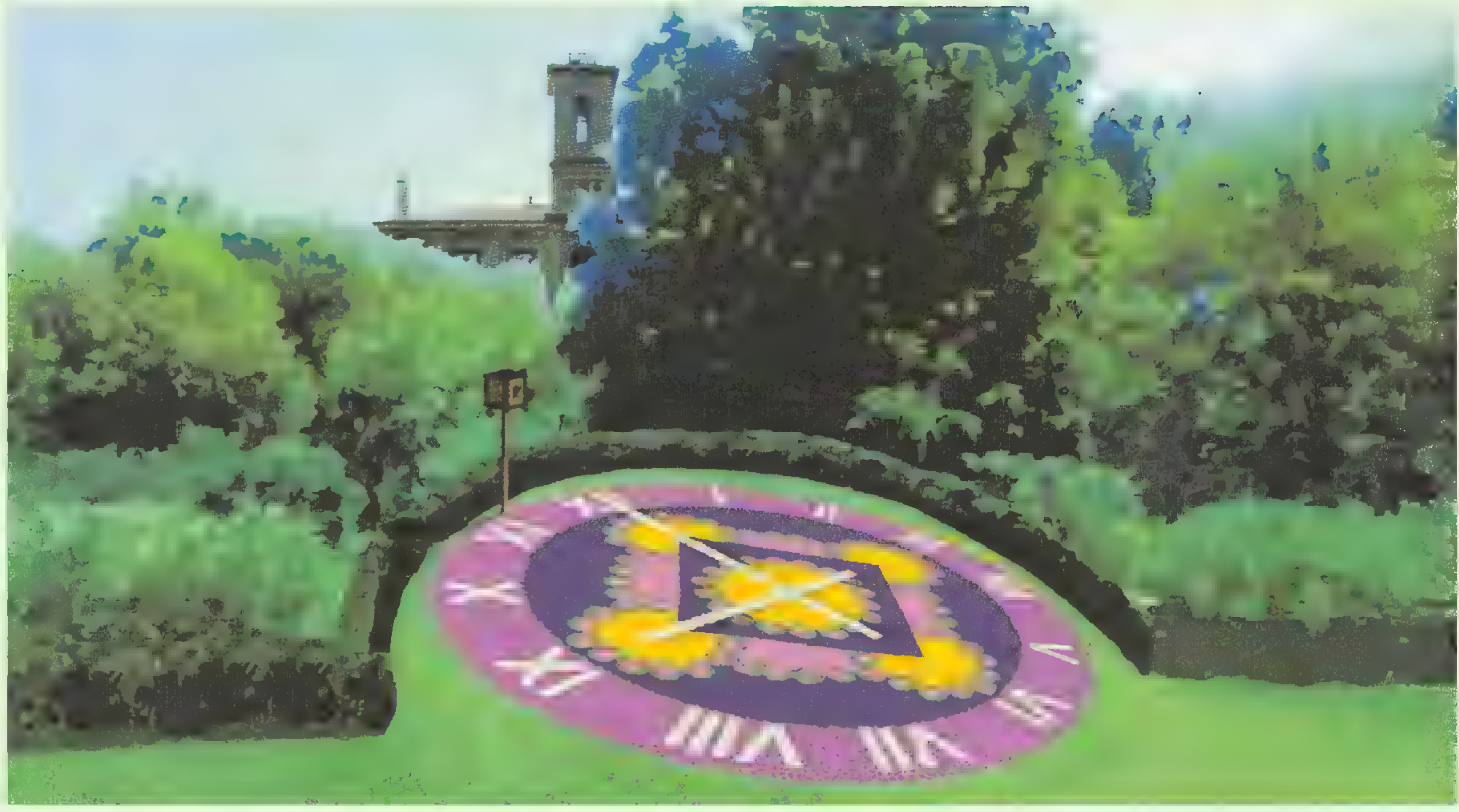
dogwood

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	Easter brunch at sassafras Sunday, April 12; Seatings at 10:30 a.m., noon, and 1:30 p.m. $24.95 per adult, $11.95 per child ages five to 12; children under age five are free. Reservations required; please call (314) 577-0200 and press 3.		01 Tram tours and Tower Grove House seasonal operations resume Children's Garden Opening Week begins	02 Children's Garden Opening Week	03 ARBOR DAY Arbor Day tree giveaway, 9 a.m. KC Children's Garden Opening Week Through the Eyes of the Condor, photo exhibition by Robert Haas of *National Geographic*	04 ✿ Eggstravaganza, 10:30 a.m. to noon ☎ Children's Garden Opening Week Bed Bugs. BH $☎
05 PALM SUNDAY Children's Garden Opening Week Corporate Partner Day From the Garden—LIVE! noon, ST BUZZ: Arthropod Warriors. 12:30 to 2 p.m. BH $☎	06	07	08	09 PASSOVER Native Plant School: Planting and Maintenance. 1 to 4 p.m. SNR $☎	10 GOOD FRIDAY Bed Bugs. BH $☎	11
12 EASTER Easter brunch at Sassafras $☎	13	14	15 ✿ Members' Event: Beautiful Bulbs, 11 a.m. RC	16 St. Louis Herb Society Herb Days, GGS Herbaria trunk show, GGS Native Plant School: Native Perennials and Grasses, 1 to 4 p.m. SNR $☎	17 St. Louis Herb Society Herb Days, GGS Herbaria trunk show, GGS John Dwyer Lecture: America's Vanishing Pollinators by Dr. Stephen Buchmann, 4 p.m., ST Bed Bugs. BH $☎	18 Earth Day at the Garden, 10 a.m. to 3 p.m. St. Louis Herb Society Herb Days, GGS Herbaria trunk show, GGS Buggin' Out for Earth Day. 11 a.m. to 2 p.m. BH Public Tour Days, EWC
19 From the Garden—LIVE! noon, ST Herbaria trunk show, GGS BUZZ: Arthropod Warriors. 12:30 to 2 p.m. BH $☎ Public Tour Days, EWC	20	21	22 EARTH DAY	23 Global Garden Speaker Series: Dr. May Berenbaum, 2 and 7 p.m., ST $☎	24 ✿ Members' Event: Native Plants, 9 a.m. to noon, SNR Bed Bugs. BH $☎	25 Chinese Culture Days, 10 a.m. to 5 p.m. $
26 Chinese Culture Days, 10 a.m. to 5 p.m. $ BUZZ: Arthropod Warriors. 12:30 to 2 p.m. BH $☎	27	28	29	30 30th Annual St. Louis Storytelling Festival. 10 a.m. to 2 p.m.		

photos by Heather Marie Osborn, and courtesy the Missouri Botanical Garden Plantfinder.

May Events

Visit www.mobot.org for the latest information.



Floral clock design by David Middleton and Dave Buck.
Rendering by Andrea Molina.

Floral Clock Debuts

May through October

For our 150th anniversary, the Garden honors our Victorian and St. Louis roots with the introduction of our first-ever floral clock! The clock, located along the central reflecting pools, will measure 20 feet across and will feature a working cuckoo chirping every quarter hour. Solar panels installed in the Kemper Center for Home Gardening will offset the power required for the clock.

The spring clock takes a Victorian kaleidoscope theme rendered in cool-season, low-growing crops, such as pansies (*Viola*), ornamental kale (*Brassica*), and alyssum (*Lobularia*). Plant material will be changed out seasonally over the course of the temporary display. The summer design will follow a traditional celestial theme with moon (white, dark purple) and sun (chartreuse-yellow).

Horticulture Supervisor Jon Sweeney and his staff of 10 horticulturists in the north end of the Garden are in charge of design, installation, change-outs, and maintenance of the floral clock. Keeping the clock face defined is labor-intensive and will include daily watering, shearing, and fertilizing. Much of the work will be performed on an adjustable, lightweight scaffold custom fit to the dimensions of the clock, which will stand about six feet at its apex.

EarthWays: *Living the Green Life!*

May through October,
Brookings Interpretive Center

A selection of booths from April's Eco Expo will allow visitors to the Garden to have the opportunity to learn more ways to grow a green lifestyle—for fun, family, and future!

Flower Festival at Christ Church Cathedral

Saturday–Sunday, May 2–3,
1210 Locust Street

Garden founder Henry Shaw left money in his will for an annual sermon to be preached on "the wisdom and goodness of God as shown in the growth of flowers, fruits and other products of the vegetable kingdom." Services at 11 a.m.; street fair follows. For details, visit www.christchurchcathedral.us.

Annual Greenhouse Plant Sale

Thursday, May 7, 9 a.m. to 4 p.m.
Greenhouse complex

Purchase overruns of annuals and unusual perennials, tropicals, ferns, woody plants—and new this year, orchids. Cash, check, or MasterCard/Visa accepted (no discounts). All proceeds benefit the Garden.

Plants of Merit with Chris Nejelski ✿

Friday, May 15, 11 a.m.,
Kemper Center for Home Gardening

Learn more about the 2009 Plants of Merit—over 50 plants with outstanding qualities and dependable performance suitable for the St. Louis region.

☺ = fun for families
✿ = members' event

Trailnet Bike to Work Day

Friday, May 15, 6:30 to 9 a.m.,
Ridgway Visitor Center

Bike to work with Trailnet and stop to "refuel" at the Garden on your way. Companion Baking supplies the treats.

photo by Leslie Wallace

Rose Evening ✿

Wednesday, May 27, 5:30 to 8 p.m.,
Rose Gardens

Enjoy the beauty and fragrance of the rose gardens during peak bloom at the official member's kick-off to summer, the annual Rose Evening.

Garden Party Nights ☺

Thursday nights, Memorial Day through Labor Day, 5 to 9 p.m.

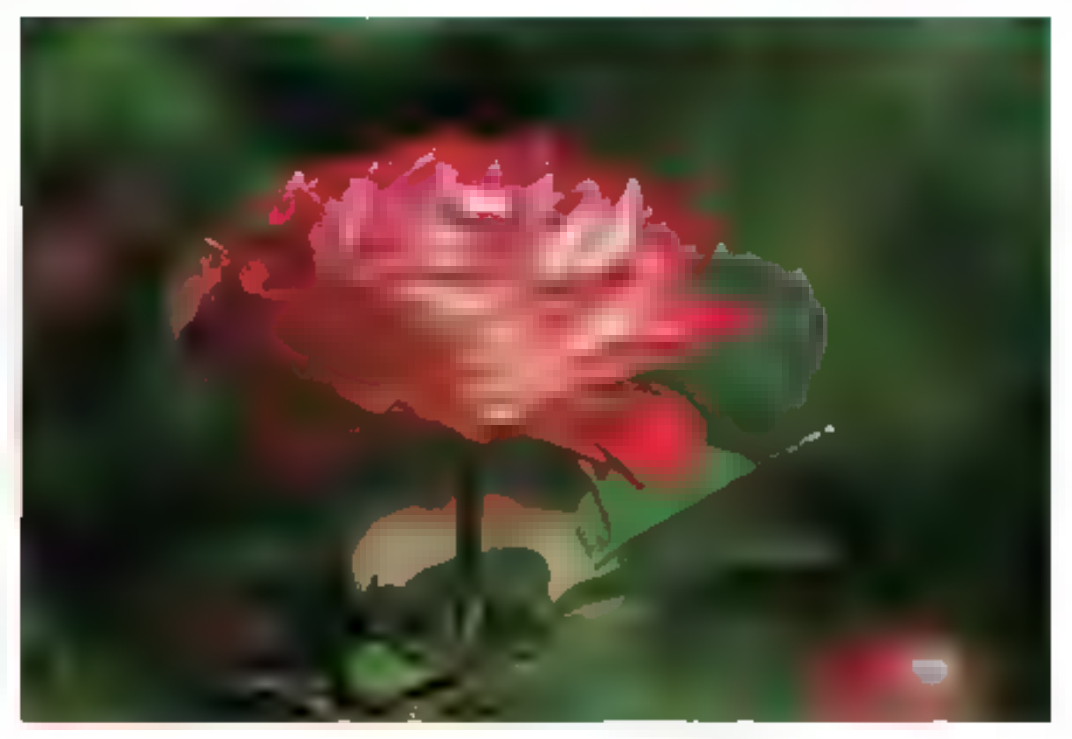
Back by popular demand, Thursday evenings in the Garden, fun for adults and children alike! Grab dinner in Sassafras, then enjoy chalk-art street painting, balloon art, face painting, and juggling. Take a 150th anniversary history tram tour ($3). Complimentary wine tastings. No outside food or beverages please. Admission: Adults $7, Garden members $5, children (ages 3–12) $3, children 2 and under are free. Includes admission to the Children's Garden (open until 8 p.m.).

May 2009

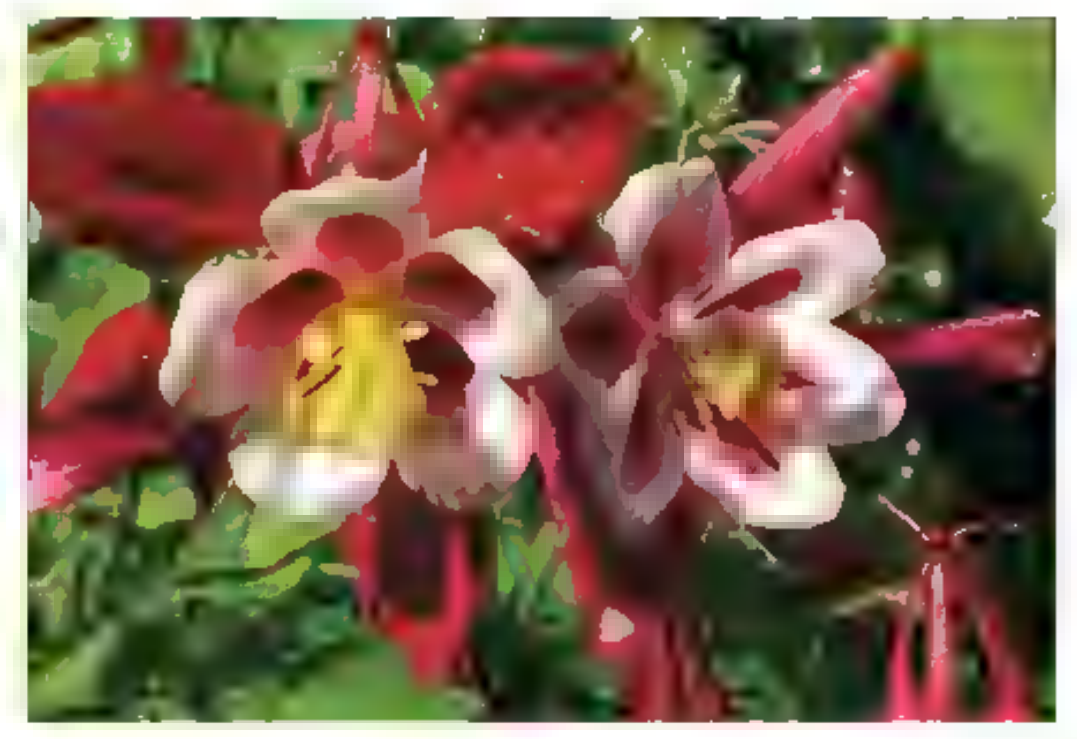
average temperature: low 56.5°, high 76.5°
average monthly precipitation: 4.11 in.

What's in bloom? download the podcast at www.gardeninghelp.org

peony


rose

bellflower


columbine

clematis

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	Mother's Day brunch at sassafras Sunday, May 10; Seatings at 10, 11:30 a.m., and 1 p.m. $24.95 per adult, $11.95 per child ages five to 12; children under age five are free. Reservations required; please call (314) 577-0200 and press 3.			www.plasticpot recycling.org	01 30th Annual St. Louis Storytelling Festival. 10 a.m. to 2 p.m. EarthWays Expo through Oct. 31. Brookings	02 Blessing Basket trunk show, 10 a.m. to 4 p.m. GGS
03 Flower Sunday, 11 a.m., Christ Church Cathedral	04	05	06	07 Greenhouse Plant Sale, 9 a.m. to 4 p.m., Greenhouses St. Louis Herb Society launches new cookbook, GGS	08 NATIONAL PUBLIC GARDENS DAY St. Louis Herb Society launches new cookbook, GGS	09 St. Louis Herb Society launches new cookbook, GGS Greater St. Louis Iris Society show, RC Greater St. Louis Dahlia Society sale, RC Spring Wildflower Sale, 9 a.m. to 4 p.m. SNR
10 MOTHERS' DAY Greater St. Louis Dahlia Society sale Mother's Day brunch, Sassafras $☎ Mother's Day brunch, BH	11	12	13 Members' 20% off sale, GGS	14 Members' 20% off sale, GGS Native Plant School: Common Garden Weeds. 1 to 4 p.m. SNR	15 ✿ Members' Event: Plants of Merit, 11 a.m. KC Members' 20% off sale, GGS Trailnet Bike to Work Day, 6:30 to 9 a.m.	16 Members' 20% off sale, GGS St. Louis Horticultural Society sale, RC Public Tour Days, EWC
17 Members' 20% off sale, GGS Public Tour Days, EWC	18	19	20	21 Science Café: Herbal Medicines: Facts and Fiction, Dr. Wendy Applequist, Assistant Curator of Economic Botany, 7 to 9 p.m. Herbie's Restaurant, www.slsc.org	22	23 Gateway Chapter of the North American Rock Garden Society sale, RC Rose Society of Greater St. Louis show, noon to 5 p.m., RC
24	25 MEMORIAL DAY	26	27 ✿ Members' Event: Rose Evening, 5:30 to 8 p.m. Garden grounds.	28 Garden Party Nights, 5 to 9 p.m. $	29 	30 Save the Date: **Midsummer Night's Dance** *Saturday, June 27, 6:30 to 10:30 p.m.*

photos by Josh Monken, Brian Mueller, Laila Wessel, and courtesy the Missouri Botanical Garden Plantfinder.

CHINESE CULTURE DAYS 2009

Saturday–Sunday, April 25–26

With sponsorship provided by Novus International, Inc.

Dancers and dragons, tea and t'ai chi await you at the Garden's annual celebration of Chinese arts, culture, and cuisine. New this year: Chinese couture fashion show. Visit www.mobot.org for full details.

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bulletin

Summer 2009 Vol. 97, No. 3 www.mobot.org

photo by Kristi Foster

President's Comment

"Sustainability" is simply meeting your own needs without compromising others' ability to do so in the future. With the explosive growth of human populations in the last 75 years, our growing consumption and use of unsustainable technologies, we are exhausting the earth's resources more rapidly than natural processes can replenish them. The rate at which we are doing so is increasing with every passing year.

The Missouri Botanical Garden strives to make the most sustainable choices for the future of people, plants, and the planet. In this, our 150th year, we celebrate our history while protecting our future—and the future of all people. We'd like you to join us. Visit our new exhibition "EarthWays: Living the Green Life" in the Brookings Interpretive Center adjacent to the Climatron® for a fun, family-friendly, interactive display of products, ideas, and technology that will help you grow green.

In this issue, you'll also learn about rain gardens, our new storm water and Deer Creek watershed initiatives, and the continuing work of the Missouri Botanical Garden to protect plant biodiversity around the world. You can read about the benefits of heirloom vegetables and ways to blend beauty and bounty in the garden. Learn about our new online education course catalog—one of our biggest 100% electronic publications yet. Now *that's* sustainable!

Though it continues to serve as a place of respite and solitude for our members and guests, the Garden is not immune to the realities of worldwide financial turmoil. It is with confidence and optimism that we remain focused on our mission and diligent in our efforts. Henry Shaw entrusted us as responsible stewards of his gift and the gifts of those who have followed his example. I believe overcoming the current economic challenges to sustain the legacy entrusted to us will leave the Garden stronger for future generations.

Peter H. Raven

Dr. Peter H. Raven, *President*

> *To discover and share knowledge about plants and their environment, in order to preserve and enrich life.*
>
> *– mission of the Missouri Botanical Garden*

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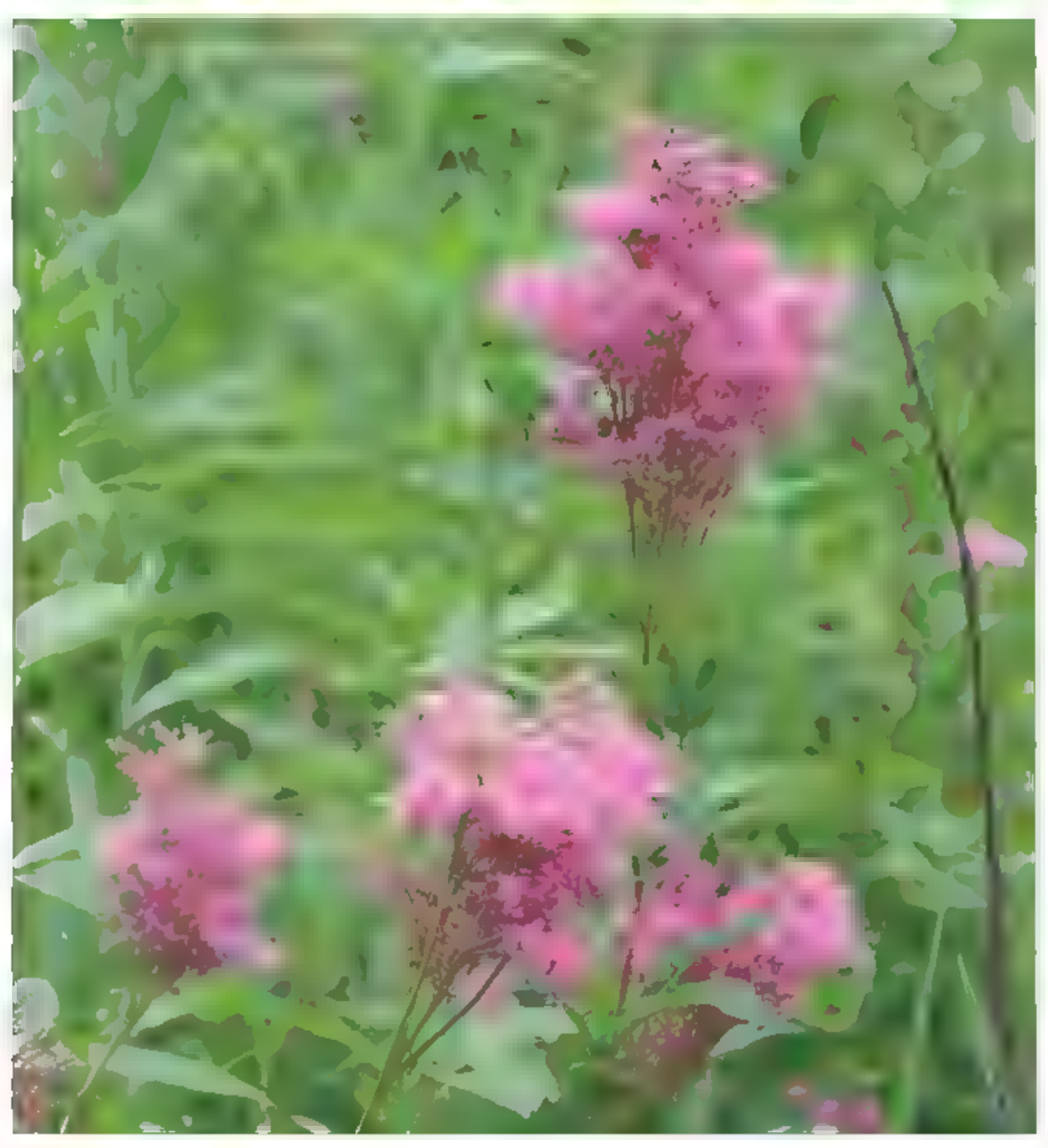

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Ready to Go Electronic?

New in 2009, the *Bulletin* is available as a downloadable PDF for viewing onscreen on your computer, iPhone, etc. Sign up for the new online version by sending an e-mail to membership@mobot.org. Let us know if you'd like to forego your paper subscription to save trees.

On the Cover:

Water lily in the Milles Sculpture Pool. Photographer Mary Lou Olson.

Credits

Editor: Elizabeth McNulty
Designers: Ellen Flesch, Jeff Ricker
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The *Bulletin* is a benefit of Garden membership.

The BULLETIN (ISSN 0026-6507) is published quarterly by the Missouri Botanical Garden, 4344 Shaw Blvd., St. Louis, MO 63110. Periodicals postage paid at St. Louis, MO

POSTMASTER: Please send address changes to Bulletin, Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166-0299

Garden Hours

Open daily 9 a.m. to 5 p.m. (Closed December 25.)
Parking is free.

General Admission

Adults $8; Members and children 12 and under free

* *Special events require an additional fee.*

St. Louis City and County visitors, with proof of residency, receive a discount on admission and free admittance on Wednesday and Saturday mornings until noon (unless special event pricing applies).

Contacts

Switchboard (314) 577-5100 (8:30 a.m. to 5 p.m.)
24-Hour Event Hotline (314) 577-9400
Website: www.mobot.org
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FSC Logo Here (Box FPO only)

News

courtesy the Soffer family

Gifts Honor Memory, Offer Fun

Among popular spots for parents to capture their child's photograph at the Garden is a grassy enclave where sculptures of three-foot-tall sheep invite children to sit. The sheep, or *Moutons*, are the work of artist Francois-Xavier Lalanne, but they are a part of the Garden landscape thanks to a gift from Don Soffer and his family, given in memory of their wife, mother, and grandmother, Pearl Soffer. In the Doris I. Schnuck Children's Garden, a steamboat known as *The Pearl* is a second gift from the Soffer family in Pearl's memory. "My mother loved flowers and loved beauty," said Lois Soffer, Don and Pearl Soffer's daughter. "What made these gifts to the Garden perfect is that children would enjoy them. They are fitting tributes to my mother." Pearl Soffer died in 1990. Don Soffer, the couple's three children, and eight grandchildren all live in the St. Louis metropolitan area. The Garden remains for them a place where they visit to celebrate Pearl Soffer's life.

If you would like to learn more about opportunities for honoring a loved one at the Garden, please call (314) 577-9495.

Lois Soffer and her son, Perry Soffer-Kanefield, enjoy a moment on a Mouton shortly after the Soffer family gave a gift to the Garden to dedicate the sculptures in memory of Pearl Soffer, Perry's grandmother. Today, Perry is 15.

Deer Creek Initiative

Flooding, erosion, infrastructure damage, and water pollution—these are the results of challenges facing local urban stream management. With increased development and predicted increases in wet weather for the upper Midwest brought on by global climate change, the situation is unlikely to improve. In response, the Garden has sponsored the Deer Creek Watershed Friends, an initiative designed to promote plant-based strategies for addressing both water quantity and quality problems in the Deer Creek Watershed. Deer Creek is a tributary of the River Des Peres that captures rain water flowing from 20 municipalities in St. Louis County. In partnership with Metropolitan St. Louis Sewer District, Washington University, Missouri Department of Conservation, local municipalities, nonprofit organizations, and interested citizens, the Garden hopes to collect data, complete demonstration projects, and work with schools and other groups for community outreach. Sign up for the Deer Creek Watershed monthly e-mail newsletter at www.deercreekfriends.net. If you would like to learn more about how you can support the Deer Creek Watershed Initiative, please call (314) 577-9495.

Motorized Scooters Available

New at the Garden: a limited number of motorized scooters available for rent. Available to visitors 18 years or older with a driver's license, the scooters rent for $25 (plus deposit) on a first-come, first-served basis at the Ridgway Visitor Center ticket counter. Thanks to Mr. and Mrs. David P. Gast for their generous gift to enable this new amenity for the public.

photos by Karen Bryan

Children enjoy the crawl-through logs at the Shaw Nature Reserve Nature Explore Classroom.

Nature Explore Classrooms™ Bloom

The Nature Explore Classroom™ at the Shaw Nature Reserve celebrated its first anniversary this spring, while the Nature Explore Classroom at the Garden turns two in June. These outdoor classrooms are the product of a collaborative effort between the National Arbor Day Foundation and Dimensions Educational Research Foundation. Developed as a response to the growing disconnect between children and nature, these spaces feature hands-on activities using natural materials in creative ways. The Garden was the first botanical garden in the nation to incorporate a certified Nature Explore Classroom on its grounds.

At the Shaw Nature Reserve, the Nature Explore Classroom is nestled under a grove of white pines near the Visitor Center. Children can design mosaics made from natural items; climb over, under, and through giant sycamore logs; and build structures with blocks made from tree limbs. The classroom is a dynamic area that is constantly changing with new things to explore. Be sure to check out the "Discover Nature – Families" programs offered in June.

In the Nature Explore Classroom in the Doris I. Schnuck Children's Garden, children have the opportunity to build with natural blocks and tree cookies (cross-segments of a tree trunk), create music with natural instruments, climb log steps and crawl through a log, dance with colorful scarves, or make art from plant parts and other natural materials. Staff and volunteer interpreters are on hand to help spark curiosity through fun activities.

A Shared Anniversary

Monday, June 1, 2 p.m., Monsanto Center
When Henry Shaw set about developing a botanical garden in St. Louis, he consulted the Royal Botanic Gardens, Kew, outside London. The year, as the Garden celebrates 150 years, Kew is marking its 250th anniversary. Join us for a lecture exploring this shared history and the role of botanical gardens in a better future, when professor Stephen D. Hopper, the director of Kew and a renowned plant conservationist, speaks June 1 at 2 p.m. in the Monsanto Center.

Dr. Raven to Throw First Pitch

Tuesday, June 16, 7 p.m., Busch Stadium
In celebration of the 150th anniversary of the Missouri Botanical Garden, president Dr. Peter Raven has been drafted to toss the ceremonial first pitch at the St. Louis Cardinals home game versus the Detroit Tigers. Come cheer him on! Pre-game festivities begin after 6 p.m.; game time is 7:15 p.m. Visit stlouiscardinals.mlb.com for ticket information.

Garden to Host APGA

Tuesday to Saturday, June 23–27
The American Public Gardens Association will hold its annual conference in St. Louis, hosted by the Missouri Botanical Garden in honor of our sesquicentennial. The conference is a national leader in professional development for nonprofit staff, horticulturists, science educators, plant researchers, and conservationists, among others. Advance registration is required, so visit www.publicgardens.org to learn more.

Ladue Garden Club Sponsors Teacher Training

In 2008, the Ladue Garden Club provided scholarships for four area teachers to attend a GEMS training at the Garden. GEMS stands for Great Explorations in Math and Science. The three-day workshop familiarized teachers with the 60 thematic lesson kits the Garden offers on loan. Educators who have completed the training may then check out the kits, free of charge, for use in their classrooms. The four teachers were Meghan McNulty of Marvin Elementary, Mary DiMercurio of Compton Drew, Renee Ganley of Busch AAA, and Anissa Parisi of Carr Lane VPA Middle School. The scholarships, which continue in 2009, are awarded in honor of Louise Krueger, who was a Ladue Garden Club member.

photo by Kat Douglas

Honored volunteers. Their achievements are listed below.

Volunteer Appreciation Evening

Last year, the number of volunteers at the Garden increased to 1,788, maintaining our status as the largest volunteer cadre of any botanical garden in the nation! Volunteers contributed 135,689 hours of service, or the equivalent of 70 full-time employees. The Garden could not operate at current levels of international renown and community outreach without the help of these dedicated individuals and groups.

On Tuesday, April 21, the Garden celebrated this remarkably capable volunteer work force at the annual Volunteer Appreciation Evening, where Dr. Peter H. Raven presented special awards to these outstanding individuals:

- Fredric Rissover, Commitment Award for his work as a "triple threat": Garden host, docent, and interpreter.
- George Hibbard, Dedication Award for his two-days-a-week devotion to the Victorian District.
- Virginia Noe, Extra Service Hours Award for her work over 15 years as a Garden docent—and a commitment of over 200 hours last year.
- Lois Estes, Frances Leimkuehler, Steve Levit, Bob Noe, and Barb Springer, Special Achievement Award for their work together to enhance the education programs at the Butterfly House.
- Peggy Kachulis, Green Award for her leadership in demonstrating sustainability at the EarthWays Center.
- Volunteer Instructors Group, Organization Award for their hard work to take their "classroom" outdoors.
- Jim Jackson, Lifetime Achievement Award for his 25 years of volunteering at the Shaw Nature Reserve.

The Garden is deeply grateful to these special award recipients and to the whole volunteer corps. Thanks for another great year!

Dr. Raven Receives Scott Medal

The Garden's president, Dr. Peter Raven, was awarded this March the Scott Medal from the Scott Arboretum of Swarthmore College. This annual award honors an "individual, organization, or corporate body who has made an outstanding national contribution to the science and the art of gardening." Dr. Raven is one of the world's leading botanists and advocates of conservation, biodiversity, and a sustainable environment. He is the recipient of numerous prizes and awards, including the U.S. National Medal of Science. He has held Guggenheim and John D. and Catherine T. MacArthur Foundation fellowships.

Guests enjoying cocktails at the Orchid Show Premiere

David and Janet Lange, Kathleen Smith, Bernard Randolf

Larry and Hannah Langsam, Carol and Bob Jones

Orchid Show Premiere

On Thursday, January 29, the Garden welcomed over 500 visitors to the annual orchid show premiere. This year's show celebrated the Garden's 150th anniversary with the Victorian theme "Henry's Garden." Attendees enjoyed complimentary beverages and hors d'oeuvres. The orchid show premiere is a benefit of upper level membership at the Garden.

Alma Reitz and Martha Kratzer

Ken and Jeanne Crawford, Joseph and Margaret Von Kaenel

Joseph and Barbara McKinney, Richard and Rosemarie Nelson, Sue and Kipp Rapp

TABLES 11-15
TABLES 6-10
TABLES

photos by Josh Monken, Andrea Nickrent, and Blacktie–St. Louis.

Young Friends Trivia Night

On Saturday, February 28, over 200 Young Friends of the Garden enjoyed Schlafly Beer and complimentary hors d'oeuvres while they competed for cash, prizes, and glory at the first annual Trivia Night-Garden Style. Young Friends of the Garden is a program for young professionals dedicated to advancing the mission of the Garden. For more information about the organization, call (314) 577-9532 or e-mail young_friends@mobot.org.

TREASURE HUNT IN SÃO TOMÉ

Bioprospecting on an Ancient Volcano

photo by Tariq Stévart, Ph.D.

The Garden has operated a Central Africa program for over 25 years, partnering with countries throughout the region, and with a headquarters in Gabon. Recently, the team has begun implementing research and conservation activities in the small, botanically interesting island nation of São Tomé off the Gabonese coast.

Just north of the equator in the Atlantic Ocean, São Tomé was formed by a massive shield volcano over 100,000 years ago. It appears to have been uninhabited by humans until the Portuguese arrived in the late 1400s. The rich volcanic soil proved hospitable to agriculture, and the Portuguese established plantations to grow sugar, and then coffee and cocoa, relying heavily on the importation of slaves. Slavery was abolished in 1875, and the island gained independence in 1975. Together with the neighboring island of Principe, it is today the second smallest nation in Africa after the Seychelles, with a total area of 1,000 square kilometers, roughly five times the size of Washington D.C.

The economy of this small, poor island has become increasingly dependent on cocoa, which represents about 95 percent of exports. However, production has declined in recent years because of drought and mismanagement. But São Tomé is rich in biodiversity. Because of its long geographic isolation and robust soil, São Tomé is home to many plant species that do not occur on the African mainland.

The Garden's Central Africa program has, since its inception, carried out field activities in Gabon and Cameroon. During these field excursions, plants are collected to document key areas, and many new species are discovered. Scientific documentation is important to establish conservation priorities and to identify plants that are important to people as sources of food, building materials, fiber, and medicine. In Gabon and

Cameroon, Garden researchers can provide accurately identified material to partners such as the National Cancer Institute (NCI) and Sequoia Sciences for pharmaceutical screening. This practice is known as "bioprospecting" and it is conducted with the highest ethical standards to ensure that the country and its people benefit from any commercial products developed from their natural resources.

São Tomé had no experience with bioprospecting, so the Garden has played a crucial role in establishing contacts between the government of São Tomé and NCI. After extensive negotiations, an agreement was signed between these two parties, providing access to plant samples, protection of intellectual property rights, and equitable benefit sharing—all requirements for Garden scientists to begin field work with our local partners.

Training for the 11 São Tomé participants was provided by Richard Randrianaivo, a Garden employee based in Madagascar, who has more than a decade of experience collecting and preparing samples for NCI and other collaborators. After several days spent introducing the required techniques, collecting began in the mountain forests, one of the island's richest habitats. Endemic plants, those found only on the island, were targeted, and most samples were collected in the higher elevation habitats.

Despite wet conditions high in the mountains, the enthusiastic Sãotomean participants collected 250 samples of bark, stem, leaf, and root, along with pressed herbarium specimens, from 65 different species in just one week. The material was carefully dried and identified, and the samples were then shipped to NCI's labs in Maryland, where they are now stored in huge freezers, ready to be screened for potential drugs against cancer and HIV/AIDS. The success of this first-ever bioprospecting project in São Tomé bodes well for future projects there.

You Can Help

- Maintain your Garden membership. It helps fund worthwhile conservation programs around the world.
- Consider buying organic, fair-trade coffee and chocolate, such as those brands currently available in the Garden Gate Shop. The fair trade movement promotes the payment of a fair wage to workers in the developing world, as well as social and environmental standards related to production.
- Donate to the Henry Shaw Fund to help support the Garden's conservation efforts. Call (314) 577-9495.

photos by Tariq Stévart, Ph.D.

Over 65 different species were collected in São Tomé for the National Cancer Institute's program to screen for potential drugs against cancer and HIV/AIDS. Field work involved collecting samples of bark, stem, leaf, and root of each species. Staff also produced an herbarium specimen so that the identification of the plant could be confirmed.

Left: Garden staff members Tariq Stévart and Richard Randrianaivo worked with personnel from the Bom Sucesso Botanical Garden, our collaborator in São Tomé.

Right: Tabernaemontana stenosiphon, *a plant native to São Tomé with beautiful white and yellow flowers.*

Medicinal Plants at the Garden

Look for this logo on signs throughout the Garden this summer. Plants are the basis of 25 percent of all prescription medicines in use today—yet less than 2 percent of plants have been tested for medicinal application. Learn about the power of plants at Siteman Cancer Center's "Healthy You, Healthy Planet" on July 18. See calendar for details.

Rain Gardening

A Sustainable Solution to Storm Water Runoff

by Cindy Gilberg, Native Plant Horticulturist

Water is a precious resource that requires responsible stewardship. A large percentage of water pollution has its origins in storm water runoff. That, combined with an aging storm water system infrastructure, has prompted a new look into solutions that are sustainable for the 21st century and beyond.

As rainfall runs over impervious surfaces such as concrete or asphalt streets, sidewalks, rooftops, and even lawns, it carries with it pollutants, sediment, and litter that ultimately end up in our lakes and rivers. These surfaces also intensify the quantity and velocity of the storm water runoff, causing soil erosion, flash floods, and other costly damage to property. This compromises not only our quality of life, but also adversely affects natural habitats and wildlife. Rain gardens are just one piece in the storm water puzzle, along with green roofs, rain barrels, and permeable pavement.

What is a rain garden?

Basically, rain gardens are man-made landscapes that mimic the form and function of natural wetlands. Rain gardens are shallow depressions that use the same elements that exist in nature, such as plants, stones, and topography, in order to slow down and temporarily capture rainfall. They perform a vital function in the landscape by allowing water to be filtered through plant material and absorbed into the soil, thus diminishing the quantity of runoff as well as improving the quality of water that eventually enters our lakes and rivers.

Ideally, rain gardens should be positioned between the source of the runoff (such as the rooftop of a house) and the storm water culvert at the curb. Planted "swales" or buried drain tile help direct the runoff from the downspouts to the rain garden. Rain gardens are designed with spillways that allow excess water

photos by Scott Woodbury

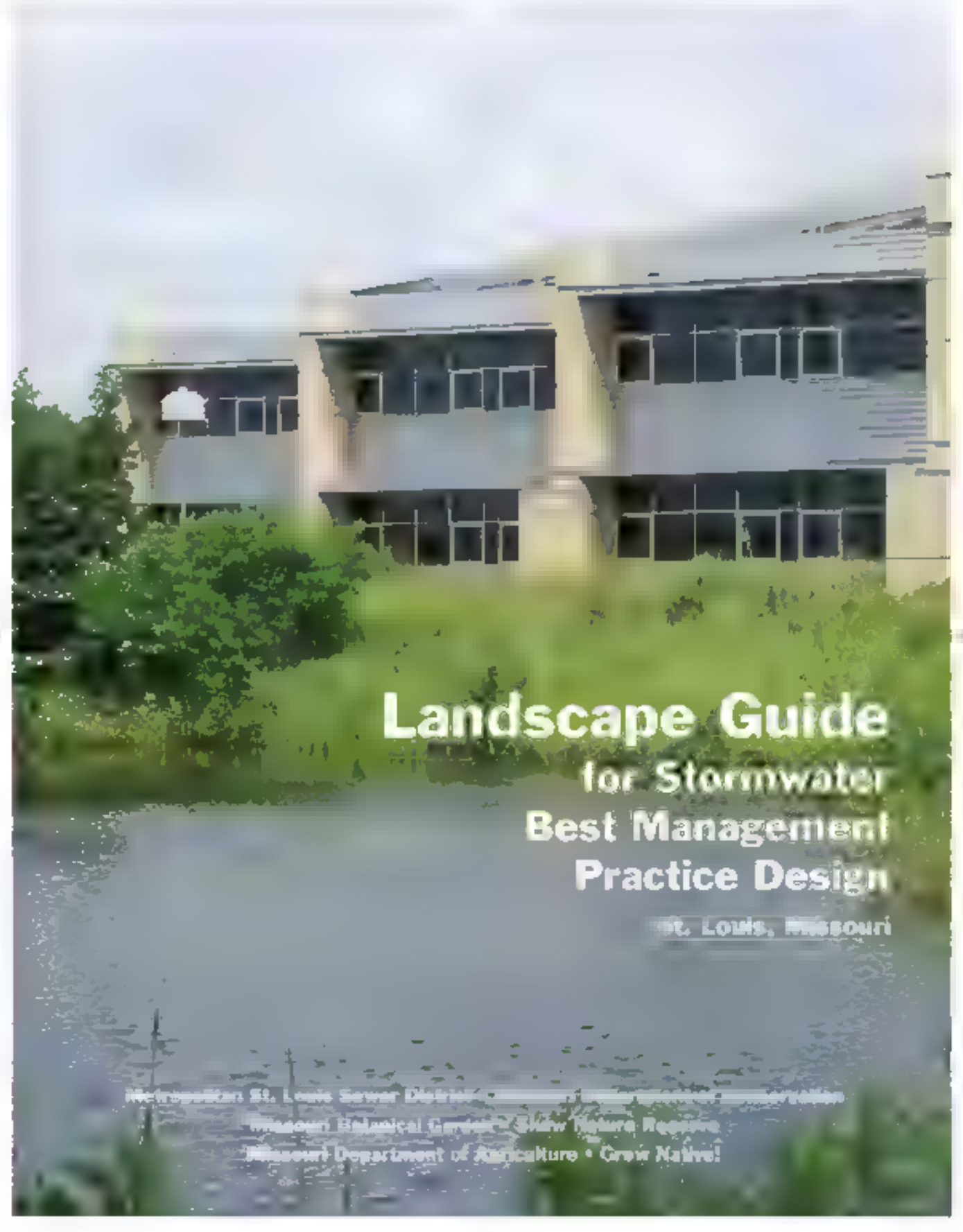
From left: Queen of the prairie (Filipendula rubra)*, a residential pond rain garden, and a shallow rain garden at Shooting Star Nursery.*

to exit during heavy rains. Since any reduction in storm water runoff is beneficial, rain gardens range in size from small residential gardens to large, commercial projects. Planting designs range from traditionally planted compositions to random plantings that emulate natural wetlands.

Missouri is blessed with an abundance of native plants that thrive in natural wetlands and are an obvious choice for use in rain gardens. A few colorful choices include copper iris, rose turtlehead, cardinal flower, seedbox, and meadow phlox. These plants are adapted to our climate and soils, and survive fluctuating water levels and temperatures. Diversity is the key to healthy habitats, and rain gardens offer a viable and attractive alternative to the monoculture of lawns and pavement. In addition, birds, butterflies, dragonflies, frogs, and other wildlife are attracted to rain gardens.

Learn More

- Take the **Native Plant School** class on rain gardens offered on both Thursday, June 11, and Friday, June 12, from 1 to 4 p.m. $12 ($8 for Garden members). Reservations required; call (636) 451-3512.
- Pick up the Missouri Department of Conservation's brochure "Native Plant Rain Gardens," available through their GrowNative! program (www.grownative.org).
- Visit the new **Show-Me Rain Garden Initiative**, a program of the Soil and Water Conservation District of St. Louis County in collaboration with the Metropolitan Sewer District, Missouri Botanical Garden, Shaw Nature Reserve, educational institutions, and various corporate and private citizens. Website: www.showmeraingardens.com.



A Publication for Professionals

The Environmental Protection Agency's Clean Water Act requires that developments that disturb more than one acre of land must remove pollutants and sediment and reduce the impact that storm water has on eroding streams and rivers. As a result, the St. Louis Metropolitan Sewer District has revised its storm water guide to include best management practices that involve greener solutions and native plants. You will find the new guidebook, "**Rain Gardening and Storm Water Management**," samples of best management practices, and required native plant lists on these websites:

Metropolitan Sewer District
www.msd.st-louis.mo.us

Missouri Department of Conservation
www.mdc.mo.gov

Shaw Nature Reserve
www.shawnature.org

photo by Karl Gunnig

New Rain Garden at the Kemper Center for Home Gardening

When a storm dumps buckets of rain, the landscape can become flooded with most of the water running into the storm sewer from rooftops, driveways, and steep hillsides. A rain garden can be designed to capture this runoff, retain it for re-absorption into the soil, and slow its migration to rivers and streams.

An example of a residential rain garden is now installed on the north side of the William T. Kemper Center for Home Gardening. This is a perfect spot for a rain garden, says the Center's manager, Dr. Steve Cline. "The east and north landscape of the Kemper Center, including parts of the Doris I. Schnuck Children's Garden, drain large quantities of water into storm drains, so much so that we had to install two drains to handle the flow. With the installation of this rain garden, we expect to capture a significant amount of this water and channel it back into the soil." This redirection not only spares the storm drains, but will "recharge" the soil profile where plants will find it during drought periods.

In selecting plants compatible for rain gardens, choices are surprisingly many. Rain garden plants need to be tolerant of both wet and dry conditions, since the design of the rain garden is around the idea that the water will come and go within a 24- to 48-hour period. A little over 30 plants, both native and ornamental, were selected for the Kemper Center rain garden, including a half dozen Plants of Merit™ like the variegated sedge *Carex* 'Ice Dance' and spiky plumed rush *Juncus effusus*.

"There is no need to think of a rain garden as strictly a functional part of a landscape aimed to control water alone," says June Hutson, Kemper Center for Home Gardening outdoor supervisor. "Our rain garden contains many flowering plants that perform in spring, summer, and fall." Visitors will enjoy asters, coneflowers, bee balm, salvia, blazing star, and tickseed, to name just a few. Flower performance, leaf color, and texture will be contrasted to show the possibilities for creating a wildlife habitat and viewing pleasure in the home landscape, all while capturing storm-water runoff.

Rain Garden Plants

Center Plants

Achillea 'Red Beauty'
Amsonia 'Blue Ice'
Amsonia hubrichtii
Amsonia montana 'Short Stack'
Aster oolentaginensis
Baptisia sphaerocarpa
Carex 'Ice Dance'
Coreopsis x 'Jethro Tull'
Echinacea purpurea 'Vintage Wine'
Geranium x 'Rozanne'
Gaura 'Siskyou Pink'
Pennisetum alopecuroides 'Piglet'
Hibiscus x 'Fantasia'
Juncus effusus
Kalimeris
Liatris pycnostachys
Lobelia siphilitica
Monarda fistulosa
Porteranthus trifoliatus 'Pink Profusion'
Phystostegia 'Miss Manners'
Rudbeckia fulgida
Rudbeckia missouriensis
Salvia nemorosa 'Sensation Rose'
Scutellaria incana

Edge Plants

Asclepias tuberosa
Aster laevis
Carex stricta
Centranthus ruber
Dianthus 'Firewitch'
Eryngium yuccifolium
Heuchera 'Purple Petticoats'
Heuchera 'Rave On'
Gaura 'Siskyou Pink'
Monarda bradburiana
Nepeta 'Candy Cat'
Oenothera macrocarpa
Stachys 'Hummelo'

get growing!
fall–winter | 09

When You Sign Up for Fall Classes—Go Green!

Members enjoy discounts on all classes—as well as early enrollment. As part of the Garden's sustainability initiatives, the *Get Growing* course catalog is going green. The fall edition is now 100 percent online. On August 1, visit www.mobot.org for a complete list of the Garden's fall programs. Space is limited, so be sure to exercise your member's privilege to early enrollment right away on August 1!

Where better to seek advice, inspiration, or learn new skills than at the Garden and the Garden's family of attractions? Grow this fall with programs for kids and families, children, grandchildren, and adults of all ages. At the Garden, try **Home Landscape Design**, **Adventures in Watercolor**, and **Holiday Cookie Decorating**. Work out with trained fitness instructors while enjoying the beauty of the Garden with your little one in **Strollerobics**. Classes for kids ages 2-12 will help you keep every child in your family busy and intrigued by nature. Identify **Wildflower Ecology** at the Shaw Nature Reserve. Learn how to **Keep Chickens** in your own backyard at the EarthWays Center. Take your family on an **Owl Outing** at the Sophia M. Sachs Butterfly House.

These and dozens more opportunities are offered this fall. Classes run from August through December and range from $16 to $60 for single-session classes and from $56 to $210 for multiple-session classes. Most classes meet at the Garden's main campus, but classes are also available at the Shaw Nature Reserve, Butterfly House, and EarthWays Center.

Classes fill up quickly. Register online at www.mobot.org. To register by phone, use the following numbers:

Garden classes for adults: (314) 577-9441
Garden classes for kids and families: (314) 577-9506
Classes at the Shaw Nature Reserve: (636) 451-3512, ext. 0
Classes at the Butterfly House: (636) 530-0076, ext. 13
Classes at the EarthWays Center: (314) 577-0220

plants people planet

The Missouri Botanical Garden strives to make the most sustainable choices for the future of people, plants, and the planet. The new *Get Growing* catalog is our largest 100% online publication to date. We hope you'll make the switch to online registration with us. Sign up for an announcement by e-mailing membership@mobot.org.

WHAT TO DO IN YOUR GARDEN NOW…

clip and save

photo by Erin Whitson

June

all month

☐ Water turf as needed to prevent drought stress. No need to remove clippings unless excessive. Gradually increase the mowing height throughout the summer. By September, the height should be 2 to 2.5 inches.

week 1

☐ Watch for bagworms feeding on many garden plants, but especially juniper and arborvitae.

☐ Deadhead bulbs and spring perennials as blossoms fade.

☐ Thin seedlings to proper spacings before plants crowd each other.

☐ Repeat plantings of corn and beans to extend the harvest season.

☐ Oriental fruit moths emerge. Most serious on peaches where first generation attacks growing tips. Prune out wilted shoots.

☐ Thinning overloaded fruit trees will result in larger and healthier fruits.

☐ Zoysia can be fertilized now while actively growing. Do not exceed 2–3 lbs. of actual nitrogen fertilizer per 1,000 sq. ft. per year.

week 2

☐ Apply organic mulches as the soil warms.

☐ Apply a balanced rose fertilizer after the first show of blooms is past. Apply a second spray for borer control on hardwood trees.

☐ Renovate strawberries after harvest. Mow the rows, thin out excess plants, remove weeds, fertilize, and apply mulch for weed control.

☐ Summer fruiting raspberries are ripening now.

week 3

☐ Plant tropical water lilies when water temperatures rise above 70 degrees.

☐ Pruning of spring-flowering trees and shrubs should be completed before month's end. Softwood cuttings can be taken from trees and shrubs as the spring flush of growth is beginning to mature.

☐ Begin control for apple maggot flies. Spray trunks of peach trees and other stone fruits for peach tree borers.

week 4

☐ Trees and shrubs may still be fertilized before July 4.

☐ Spray roses with a fungicide to prevent black spot disease.

☐ Prune and train young fruit trees to eliminate poorly positioned branches and to establish proper angles.

Member Plant Societies

Plant societies are the place to profess your horticultural devotion. Groups exist for fans of flowers from African violets to roses, and for specific garden types such as rock or water gardens. For the latest contact information on the Garden's plant society partners, visit www.mobot.org/plantsocieties.

photo by Kevin Wolf

July

all month

☐ Deadhead spent perennials and annuals.

☐ Remove infected leaves from roses.

☐ Pick up fallen leaves.

☐ Continue fungicidal sprays as needed. Fertilize container plants every 2 weeks with a water-soluble solution.

☐ Newly planted trees and shrubs should be watered thoroughly once a week.

☐ Maintain a 2–3 inch layer of mulch around tomatoes and peppers to prevent blossom-end rot.

☐ Cover grape clusters loosely with paper sacks to provide some protection from marauding birds.

☐ Water grass deeply at least once a week. Early morning irrigation allows turf to dry before nightfall and reduces the chance of disease.

week 1

☐ Apply no fertilizers to trees and shrubs after July 4.

☐ Plant zinnia seed by July 4 for late bloom in annual border.

☐ Hot, dry weather is ideal for spider mites. Look for leaves speckled above and yellow below and evergreen needles that appear dull gray-green to yellow-brown.

☐ To minimize insect damage to squash and cucumber plants, cover them with lightweight floating row covers. Remove covers once plants flower.

☐ Prune out and destroy old fruiting canes of raspberries after harvest is complete. Blackberries are ripening.

week 2

☐ Prune climbing and rambler roses after bloom.

☐ Dig potatoes when the tops die. Plant fall potatoes now.

week 3

☐ Powdery mildew is unsightly on lilacs, but rarely harmful. Shrubs grown in full sun are less prone to this disease.

☐ Cut semi-hardwood off spring flowering shrubs. Summer pruning of shade trees can be done now.

☐ Harvest onions and garlic when the tops turn brown.

☐ Keep cucumbers watered well. Drought conditions will cause bitterness.

☐ Sweet corn is ripe when the silks turn brown.

☐ Monitor lawns for newly hatched white grubs. If damage is occurring, apply appropriate controls.

week 4

☐ Divide bearded iris now.

☐ For the fall garden, sow seeds of collards, kale, sweet corn, and summer squash as earlier crops are harvested. Sow seeds of carrots, beets, turnips, and winter radish for fall harvest.

☐ Early peach varieties and thornless blackberries ripen now.

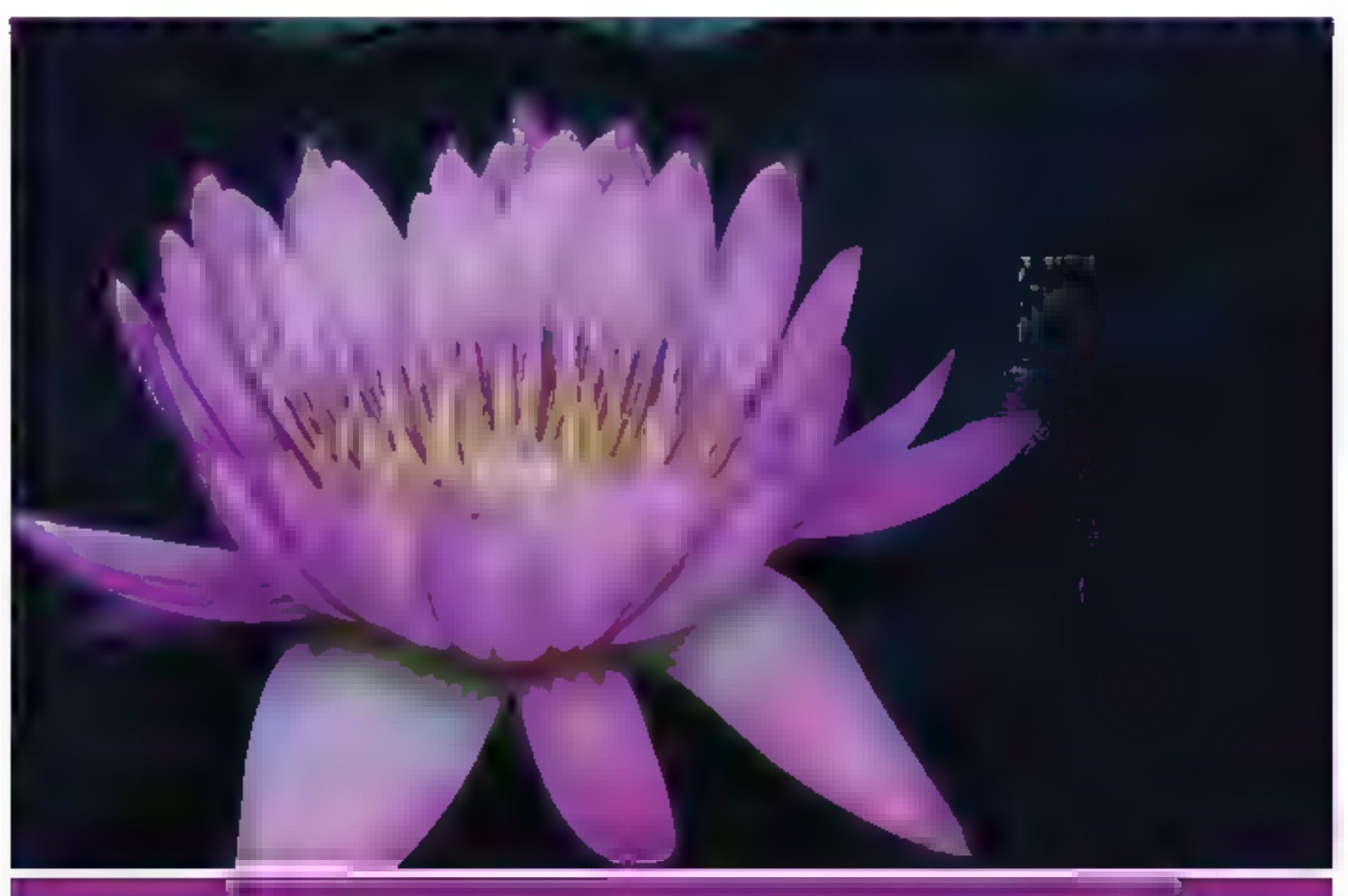


photo by Todd Gilbert

August

all month

- ☐ Deadhead annuals/perennials as needed. Annuals may appear leggy and worn now. These can be cut back hard and fertilized to produce a new flush of bloom.
- ☐ Continue spraying roses that are susceptible to black spot and other fungus diseases.
- ☐ Compost or till under residues from harvested crops. Watch for fall webworm activity.
- ☐ Prop up branches of fruit trees that are threatening to break under the weight of a heavy crop.
- ☐ Once bagworms reach full size, inseticides are ineffective. Pruning off and burning large bags provides better control.

week 1

- ☐ Feed fall-blooming perennials (mums, asters) for the last time.
- ☐ Divide bearded iris. Discard old center sections and borer-damaged parts. Replant so tops of rhizomes are just above ground level.
- ☐ Prune hedges to shape for the last time this season.
- ☐ Broccoli, cabbage, and cauliflower transplants should be set out for the fall garden.
- ☐ Spray black locust trees now to protect against damage by the locust borer.

week 2

- ☐ Roses should receive no further nitrogen fertilizer after August 15.
- ☐ To grow big dahlia flowers, keep side shoots pinched off and plants watered and fertilized regularly.
- ☐ Evergreens can be planted or transplanted now to ensure good rooting before winter arrives. Water the plant and the planting site several days before moving.
- ☐ Cure onions in a warm, dry place for two weeks before storing. Sow seeds of beans, beets, spinach, and turnips now for the fall garden.
- ☐ Cover ripening fruits with netting to protect from birds.
- ☐ Fall-bearing red raspberries are ripening now.
- ☐ Apply insecticides now for grub control on lawns being damaged by them. Zoysia lawns should receive their final fertilizer application.
- ☐ Hummingbirds are migrating through gardens now.

week 3

- ☐ Begin planting lettuce and radishes for fall now.
- ☐ Watch for fall webworms.
- ☐ Cultivate strawberries.
- ☐ Lawns scheduled for renovation this fall should be killed now. Have soil tested to determine fertility needs.
- ☐ Dormant lawns should be soaked to encourage strong fall growth.
- ☐ Monitor for spider mite activity. Reduce their numbers by hosing off with a forceful spray of water.

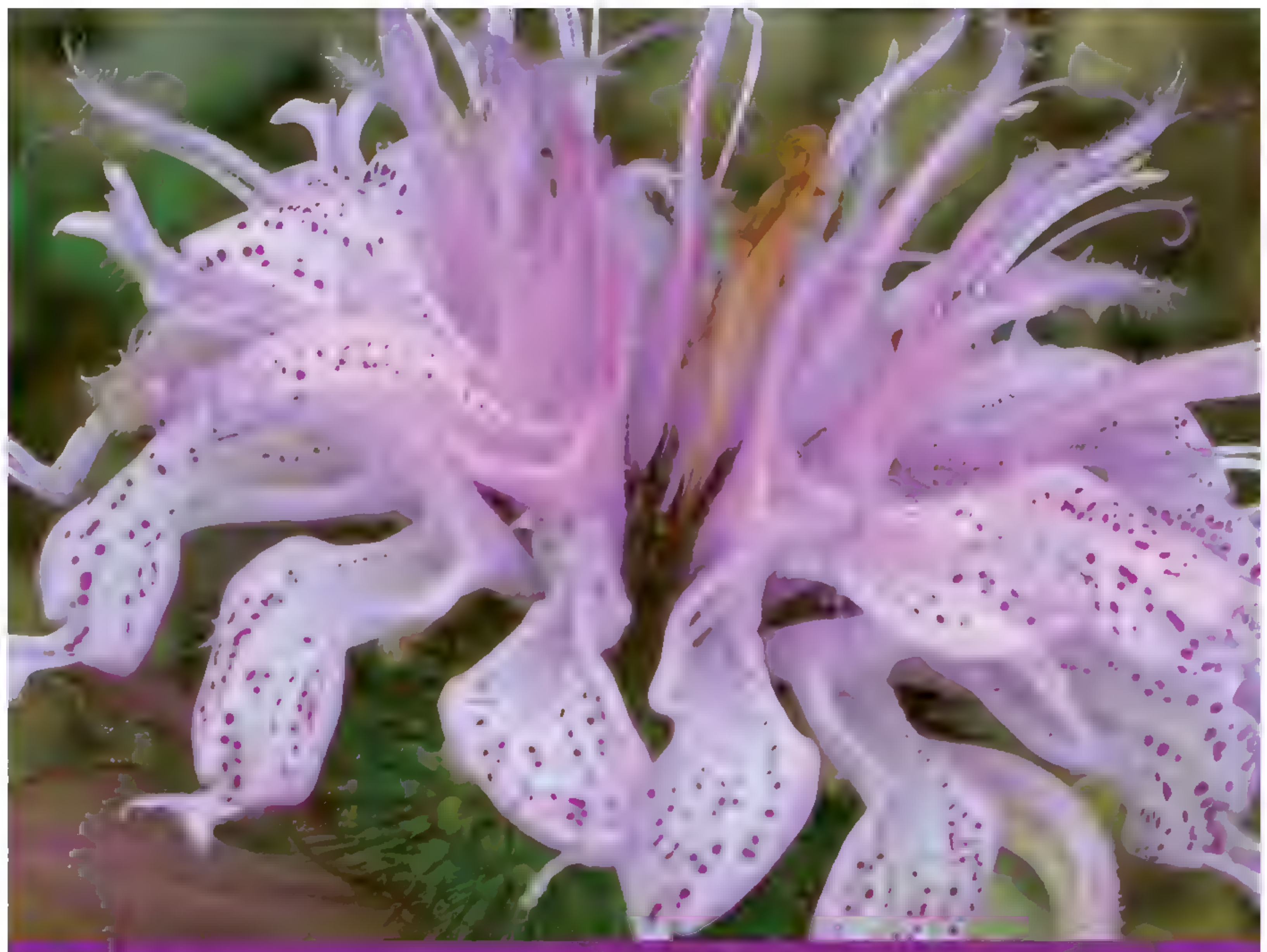


photo by Tamara Palmier

Featured Plant of Merit™

Eastern Beebalm
Monarda bradburyana

A clump-forming, mint family member of 1-2 feet tall, this beebalm species is a common Missouri native perennial and tolerates somewhat poor soils and some drought. The flowers are attractive to bees and butterflies—and people! They are pinky-white with purple spots and appear in dense, globular heads with a long summer bloom period.

Plants of Merit™ is a program of the Missouri Botanical Garden. Plants are selected by regional horticulture experts for outstanding qualities and dependable performance in the lower Midwest. View all current selections at www.plantsofmerit.org.

Double Your Money

Throughout 2009, the William T. Kemper Foundation—Commerce Bank, Trustee will match your donations to the Plants of Merit program, dollar for dollar up to $50,000. To participate, please contact the Institutional Advancement Office at (314) 577-9513.

Plastic Pot Recycling

Now through September

Close the gardening loop! Recycle plastic garden pots, cell packs, and trays. Plastic should be empty of soil with no metal hangers or rings (no clay pots or food plastic). Please separate #6 plastic cell packs and trays from #2 and #5 plastic pots into the recycling trailers. West parking lot of the Garden's Monsanto Center, 4500 Shaw Blvd. at Vandeventer. For a complete list of satellite collection centers throughout the metro area, visit www.plasticpotrecycling.org.

Plants with a Past

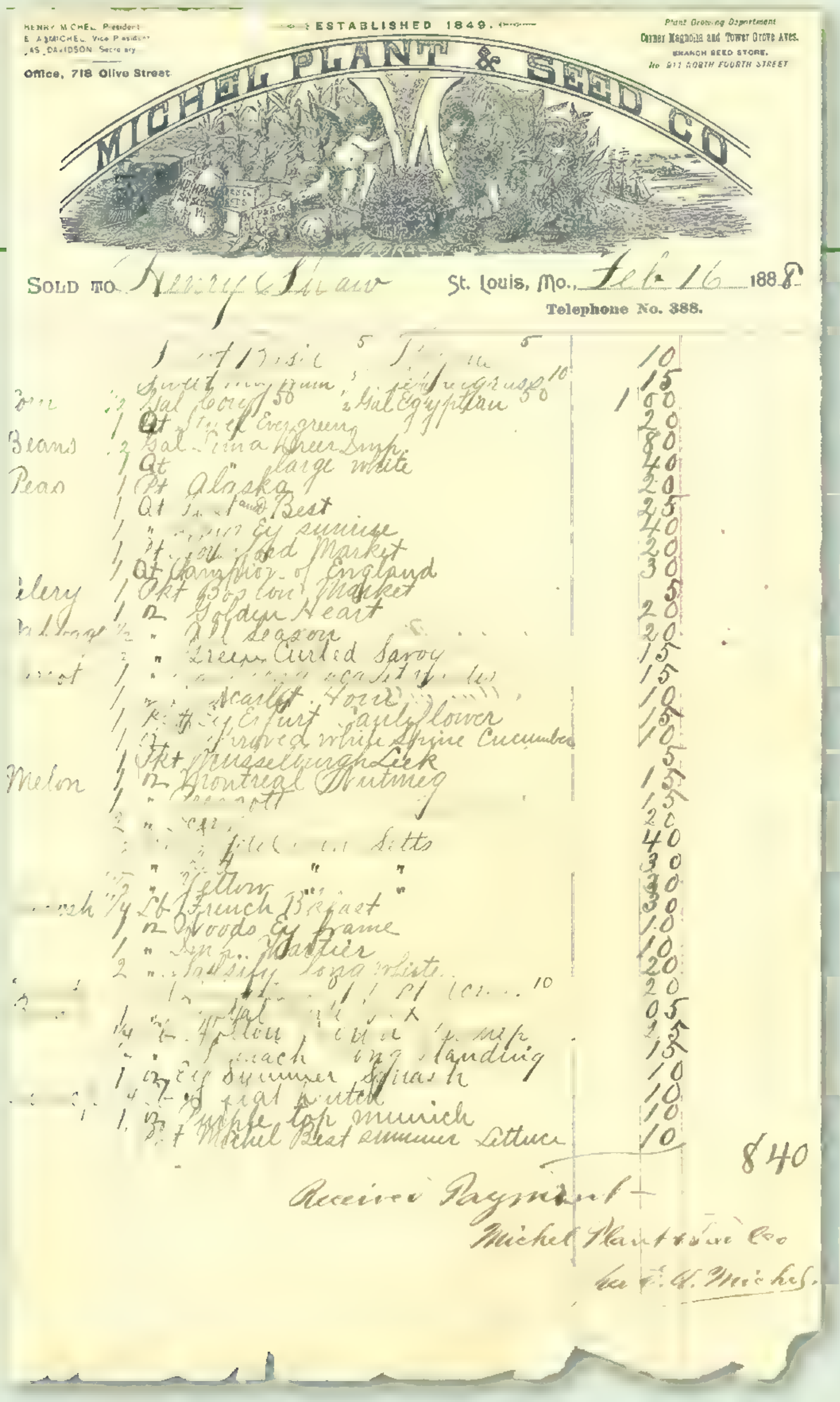
The Bank of America Vegetable Garden in the Kemper Center for Home Gardening features Henry Shaw heirloom veggies in 2009.

Growing Veggies with Henry Shaw at the Kemper Center for Home Gardening

by June Hutson, Kemper Center for Home Gardening Outdoor Supervisor

An heirloom plant is, most simply, a variety that was grown in earlier times. Heirloom plants have maintained their original traits for 50 years or more through open pollination by birds, wind, or other natural methods. Of course, some are much older and some are even pre-historic. Very few are in large-scale production. Open pollination means they grow "true to type," that is, they can produce plants identical to the parent from seed. Thus, the same variety can be reproduced each time it is grown.

Heirlooms play an important role in modern vegetable hybrids. Hybrids are produced when humans (or nature) cross two distinct, different parents (often heirlooms) to produce what is called an F1 hybrid. These plants can exhibit hybrid vigor and may combine the best qualities of each parent, such as resistance to disease and/or insects, high yield, or good flavor. Plants grown from the seeds of these F1 plants, however, will not be identical to the parents. Hence, seed is not saved from F1 hybrids for future use. The important role of heirlooms then is that the original parents (again, often heirlooms) need to be crossed each time to produce the valuable F1 seed. If we lose the heirloom, we can lose the parents of the F1 hybrids and the valuable and useful genes the heirlooms possess.



HENRY MICHEL, President
E. A. MICHEL, Vice President
JAS. DAVIDSON, Secretary

Office, 718 Olive Street

ESTABLISHED 1849.

MICHEL PLANT & SEED CO

Plant Growing Department
Corner Magnolia and Tower Grove Aves.
BRANCH SEED STORE,
No. 911 NORTH FOURTH STREET

SOLD TO Henry Shaw St. Louis, Mo., Feb 16 1888

Telephone No. 388.

8 40

Received Payment
Michel Plant & Seed Co
per E. A. Michel

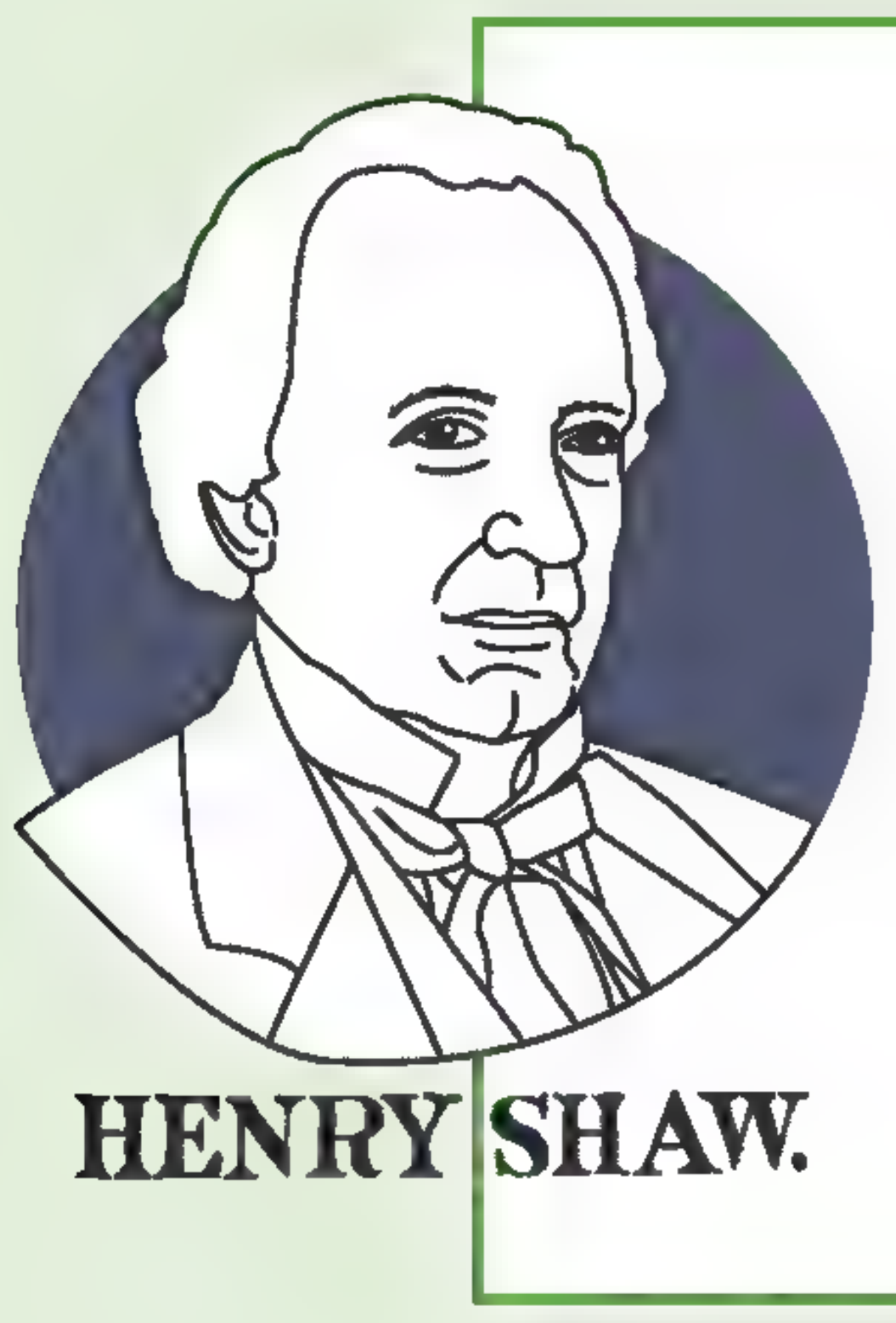
A receipt for vegetable seeds grown by Henry Shaw in 1888.

> “Eating is an agricultural act.”
>
> –Wendell Berry,
> farmer and author

photo by Laila Wessel

With the growing public awareness of sustainability issues, interest in growing heirlooms goes hand-in-glove with the resurgence in home vegetable gardening. Once upon a time, eating was seasonal and local. Do you remember when asparagus was only available in early spring? Who can forget the flavor of that first garden strawberry in late spring? This event signaled the beginning of a vegetable frenzy during summer and into late fall. Crops came and went depending on the season, not to be eaten fresh again until next year. The renaissance of local farmers’ markets attests to the fact that homegrown taste—as well as sustainable local production—is important to today’s consumer.

There are several organizations that specialize in saving and selling heirloom seeds. Some of the most popular are Baker Creek Heirloom Seeds (www.rareseeds.com) right here in Missouri, Seed Savers Exchange (www.seedsavers.org), Southern Exposure Heirloom Seeds (www.southernexposure.com), Victory Seed (www.victoryseeds.com), and Amishland Seeds (www.amishlandseeds.com). Many heirloom varieties are available, and some companies provide historical information as well as growing instructions.



Look for this symbol!

To see heirloom veggies grown by Henry Shaw in the 19th century, look for this symbol on plant labels in the Kemper Center for Home Gardening Bank of America’s Vegetable Garden.

photo courtesy MBG Archives

The “farm,” southwest of Tower Grove House, where Shaw grew vegetables.

Mr. Shaw’s Vegetables

In doing research for the Garden’s 150th anniversary, the Garden’s archivist, Andrew Colligan, found a slip of paper dated February 16, 1888. It was a receipt for vegetable seeds from Michel Plant & Seed Co. “sold to Henry Shaw.” At that time, the developed botanical garden open to the public only extended north from Shaw’s home. Southwest of Tower Grove House, where the Boxwood Garden now sits, was the “farm,” an area of land where Shaw raised livestock and grew crops for his own table.

In honor of the Garden’s sesquicentennial celebration, a large array of **heirloom vegetables** has been added to the Kemper Center for Home Gardening. Several heirloom varieties that could be found in Shaw’s original vegetable garden will be on display, including early six week beans, aubergine eggplant, turnip root beet, scotch kale, calabrese broccoli, cabbage large drumhead savoy, long orange carrot, scotch leak, ice lettuce, yellow Strasburg, parsley, okra, hollow crowned parsnip, long scarlet radish, prickly spinach, red top turnip, sweet basil, thyme, sweet marjoram, and salsify. All heirloom varieties are grown from seed and will reach peak bloom from late spring through summer. Garden horticulture staff will be documenting their yield and performance.

See article on growing your own veggies, page 18.

photo by Mary Lou Olson, Laila Wessel, and Kevin Wolf

Head Start

The Garden has recently entered into a partnership with South Side Day Nursery to launch a schoolyard gardening program. Funded by the Missouri Foundation for Health, the new pilot program features a classroom curriculum, professional development for teachers, and a garden that incorporates fruits, vegetables, bird and butterfly attractants, as well as an area for each classroom to choose their own plants and design. Children can learn about health, nutrition, biology, and the environment. To support this and other worthy Garden programs, call (314) 577-9513.

Eat the View!

In March, Michelle Obama and a group of Washington D.C. school children helped plant a vegetable garden on the South Lawn of the White House, the first since World War II when Eleanor Roosevelt had a Victory Garden installed. The Obamas will enjoy more than just fresh produce: the first lady plans to use the garden to educate children and families about health, nutrition, and the environment.

Although not credited with the Obamas' decision, a group called Eat the View had launched an online petition drive earlier in the year at www.eattheview.org to encourage such action. The nonprofit is dedicated to campaigning for high-impact food gardens in high-profile places.

Here in Missouri, the first lady of the state, Georganne Nixon, has launched a new vegetable garden at the Governor's mansion. A team of horticulturists from the Missouri Botanical Garden visited to offer advice. She plans to start with varieties of tomatoes, including some heirlooms, peppers, and assorted other veggies and herbs.

Sales of vegetable seeds and transplants are up 30 percent nationwide. Sales of canning and preserving products are also up. Farmers' markets are thriving (visit the EarthWays Center website www.earthwayscenter.org for a listing of all the farmers' markets now in St. Louis). The *New York Times* asks "Is a Food Revolution Now in Season?" Vegetable gardening has never seemed so chic!

It's not too late to plant your veggies, but start with plants and not seeds now. Follow in Henry Shaw's footsteps and look for heirloom varieties (see page 16). Or catch the latest trend: "edible view" or aesthetic vegetable gardening, where colorful varieties of vegetables are mixed in planters and beds with flowers, annuals, perennials, you name it. Our favorite such container features a central "thriller" of burgundy okra (*Abelmoschus esculentus* 'Burgundy') with its beautiful maroon stems and tropical-looking leaves from the hibiscus family. As "filler," try any of the variegated coleus (*Solenostemon scutellarioides*). Then "spill" over the container with sweet potato vine in a chartreuse color, such as *Ipomoea batatas* 'Margarita.' Look for colorful varieties of herbs too: purple basil, variegated sage, lemon thyme, and mints with burgundy stems. Not only will you adorn your patio, but when the summer draws to a close, you can eat the view!

Helpful hint: Visit www.gardeninghelp.org to download the Kemper Center for Home Gardening's fact sheet on "Growing Vegetables at Home."

How Green is Your Garden?

Putting Sustainability to Work in Your Yard

photo by Webster Kirkwood Times/Diana Linsley

EarthWays program coordinator Korey Hart shows off his own backyard urban chicken coop.

by Jean Ponzi, Green Resources Manager

Is your home landscape lazy? Are you investing your labor into your yard with little return? Maybe it's time to give your acreage some of these green jobs.

Construct a **rain garden** to enhance biodiversity in your yard while reducing the storm runoff burden on our region's water treatment systems. Low-maintenance **native plants** attract birds and beneficial insects as they thrive during dry periods and survive in rain garden puddles too. (See page 10 for more details.)

Rain barrels update an antique water-saving strategy for busy modern households. Simply place a low-cost, low-tech recycled-plastic barrel directly under your downspout to collect the healthiest water for indoor or garden plants. Or install a water-smart system of one or more connected barrels linked to a moisture-sensing timer and a super-efficient drip irrigation system.

Start **composting** and make use of up to 20 percent of your household's waste by transforming kitchen scraps, houseplant trimmings, and garden waste into super-charged, organic, and FREE fertilizer. This garden-variety miracle will occur whether you use a basic outdoor pile, set up an indoor worm bin, or get turning assistance from a tumbler or other type of purchased composting equipment.

Add livestock to your vegetable garden. Sustainability can take wing—or at least sit on a nest – when you add **backyard chickens** into your green productivity plan. Keeping domestic fowl is an increasingly popular practice, as newspaper and TV accounts attest, all over the St. Louis area. Whether your interest is in chickens as pets, producers of healthful free-range eggs, or Sunday dinner, local experts are happy to teach the basics. Visit www.backyardchickens.com for tips and informative overviews, then plan to attend the "Backyard Chickens" class at the Garden's EarthWays Center, on Tuesday, October 20, from 7 to 8:30 p.m., where you can learn how to promote good-sense health practices while abiding by local livestock regulations.

Let EarthWays Center's adult classes help you boost the green and cut the waste in your home landscape and in your lifestyle. Visit www.earthwayscenter.org for details on all current course offerings.

Need information on living green? E-mail your questions to the Garden's EarthWays Center at greenresources@mobot.org or call (314) 577-0246.

EARTHWAYS
CENTER

3617 Grandel Square, St. Louis, MO 63108
phone (314) 577-0220 • www.earthwayscenter.org

Learn Green – Live Green

Summer Solstice Garden Benefit

Saturday, June 20, 11 a.m. to 3 p.m., Terrene Restaurant

This fundraiser for the Garden's EarthWays Center features Dr. Peter Raven as guest of honor. Enjoy tantalizing seasonal lunch fare supplied by local and regional farmers along with an array of beverages and a dessert buffet. Bid in a silent art auction. Minimum donation is $60. Outdoor garden patio at Terrene Restaurant, 33 N. Sarah in the Central West End. With support from SMW Global's Living GREEN Network, Terrene, and KCM Art and Design. Reservations required; call (314) 577-0220 or visit www.earthwayscenter.org.

Summer at the Wetlands

The Shaw Nature Reserve features 32 acres of wetlands with hundreds of species of plants, bugs, birds, and amphibians.

Earth's Most Productive Ecosystem Teems with Life

by Dr. James Trager, Restoration Biologist

Compared to the busy spring and fall seasons, fewer visitors come to Shaw Nature Reserve during the sultry days of summer, but this is when other life is most burgeoning. Wetlands are the most productive ecosystems on Earth, and the collection of ponds and wet meadows we call the "wetland complex" at the Reserve is especially lively in summer.

The wetland trail is nearly level through its length and adjacent to the luxuriant prairie. This trail allows visitor-naturalists to observe a wide variety of plants and animals. The edges of ponds sport wetland plants such as native iris, lobelia, and hibiscus species among a surprising variety of reeds and rushes. In summer, individual water lily flowers open up exactly three mornings in a row then close the following afternoon. It's an intricate relationship with pollinators that is worth learning more about in order to fully appreciate.

Most waterfowl fly to the wetlands of the North to breed, but a few of these birds stop here. We have Canada geese, of course. More interesting are the kingfishers, mergansers, wood ducks, and green herons that nest here. The wood ducks are the most often seen, as the flightless brown mother duck (they molt during nesting) peeps loudly to call her young to seek shelter in the reeds, and the tiny ducklings flee on feet that remind me of cartoon characters with whirling legs. Red-winged blackbirds, orchard orioles, and yellow-breasted chats are other birds frequently spotted. In late summer, both little blue and great blue herons that breed in a "rookery" about five miles away come to feed at the Reserve's wetlands.

Bring binoculars along to observe the wealth of colorful butterflies and dragonflies at the wetlands. You can even utilize their magnifying powers to bring plants and tree leaves that are out of reach closer to your view.

SHAW
NATURE RESERVE
Hwy. 100 & 44 (exit 253), Gray Summit, MO 63039
phone: (636) 451-3512 • www.shawnature.org

You Can Help

The Reserve's 32-acre wetland complex was developed over a number of years starting in 1991. Two of the main donors to the wetlands from the very beginning were August and Ruth Homeyer, who donated because they knew the wetland would benefit many species of birds. August Homeyer passed away in 2002, Ruth in 2008. As a parting gift, they left money for a new boardwalk that helps make the wetlands accessible to people of all abilities. To learn about ways you can help preserve and improve areas you love, call the office of Institutional Advancement at (314) 577-9500 or visit "Ways to Donate" on the Garden's website www. mobot.org.

photo by Kevin Wolf

Fluttering in the Breeze

Attracting and Keeping Butterflies in Your Yard

by Mark Deering, Curator of Butterflies

Few things in life are more rewarding than planting a beautiful garden and watching the flowers as they bloom and display their brilliant color to attract native butterflies and other insects. Your plant selections should not only add color, but offer nectar, shelter, and food throughout these insects' lives. Below are a few easy steps which will help your garden become an oasis for local species of butterflies, moths, and other insects.

Learn more about your local butterflies. Knowing their requirements will offer ideas on flower and plant selections for your garden. Visit the Butterfly House website at www.butterflyhouse.org to read about species found in our region. No matter what type of butterflies you hope to attract, the following information generally holds true:

- Plant most of your garden in full sun. Plants need sunlight to make food for themselves and nectar for the butterflies. Butterflies also need sunlight to warm their bodies for flight.
- To keep the butterflies in your yard and see the whole lifecycle, make sure to add host plants for the caterpillars, in addition to the flowering nectar plants which offer the adult butterflies the sugar-rich liquid diet they need to be energetic and reproduce. Butterflies lay their eggs on host plants, usually a specific plant for that particular species of butterfly. The emerging caterpillars will eat these plants and grow. Your chance to observe the entire life cycle of the butterfly more than makes up for a few leaves with holes in them.
- Don't use chemical pesticides! Pesticides kill butterflies, caterpillars, and other useful insects. Instead, encourage ladybugs, spiders, dragonflies and other natural predators to dine in your garden.
- Water as needed to produce rich blooms, but also consider water-saving strategies such as the addition of a rain barrel to supplement needs. Do not overwater since your selections should be mostly native plant species that thrive on the weather conditions within their typical range.

You've set the stage, now watch the show. You won't be disappointed!

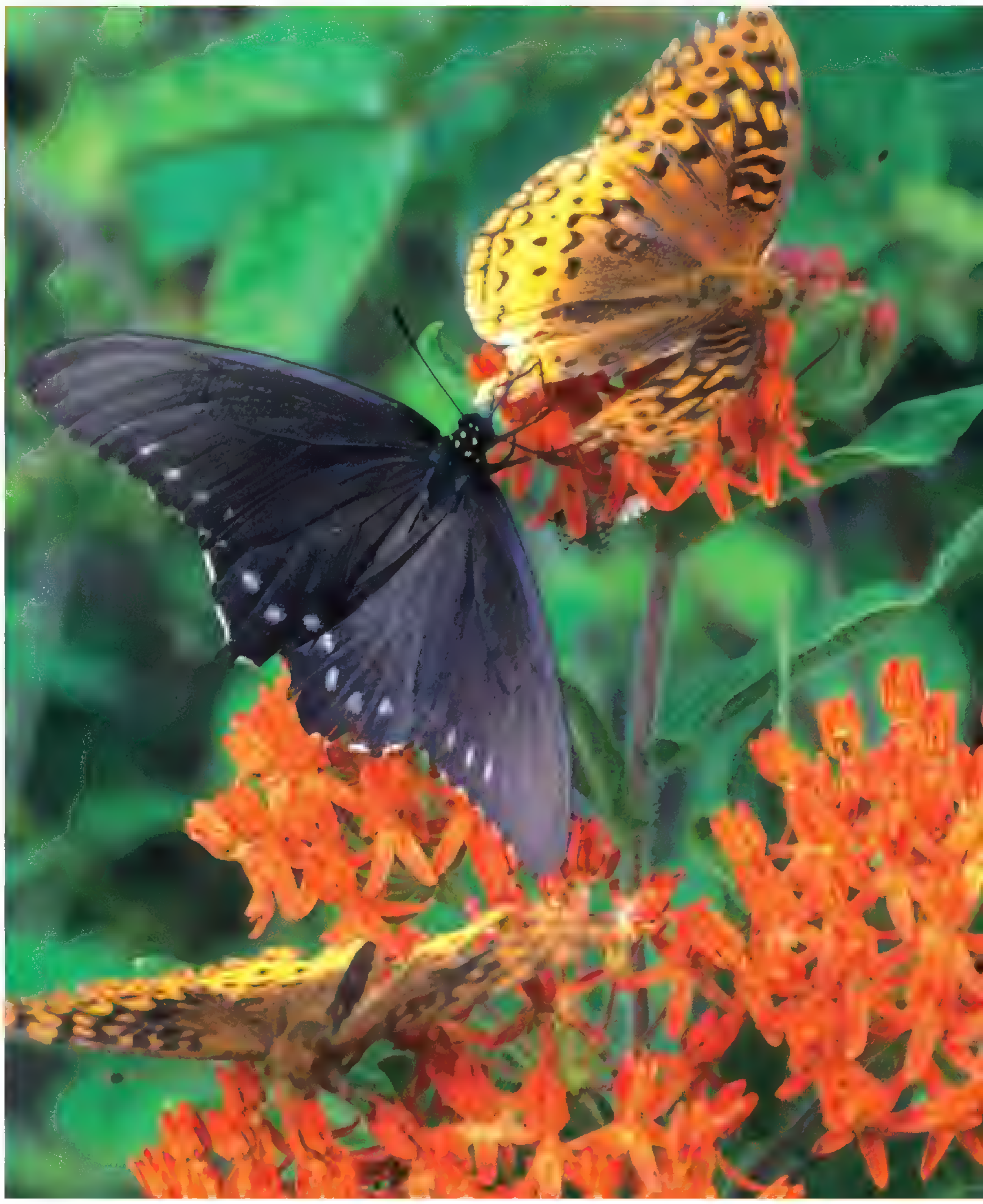


photo by Mark Deering

Pipevine swallowtail (Battus philenor) *and great spangled fritillary* (Speyeria cybele), *drinking nectar from butterfly weed* (Asclepias tuberosa).

Where Dreams Take Flight!

Imagine what it would be like to be married at a lakeside pavilion on a lovely brick terrace. Your wedding dreams take flight at the Sophia M. Sachs Butterfly House—and this July and August, there are even more options! Our wedding season spans May 1 to mid-October. Ceremonies are offered on Saturdays and Sundays at 11 a.m. and 2 p.m. During the months of July and August, however, we have expanded the wedding time options to include Friday and Saturday evenings as well. To learn more, visit www.butterflyhouse.org, or call our Special Events Department at (636) 733-2339.

Butterfly House

15193 Olive Blvd.,
Chesterfield, MO 63017
(636) 530-0076
www.butterflyhouse.org

Tributes

January through March 2009

A tribute gift to the Garden is a wonderful way to honor family and friends. Tributes of $25 and up are listed in the *Bulletin*. If you have questions regarding giving opportunities at the Garden, please call (314) 577-5118. You can also make a tribute gift online at our website, www.mobot.org.

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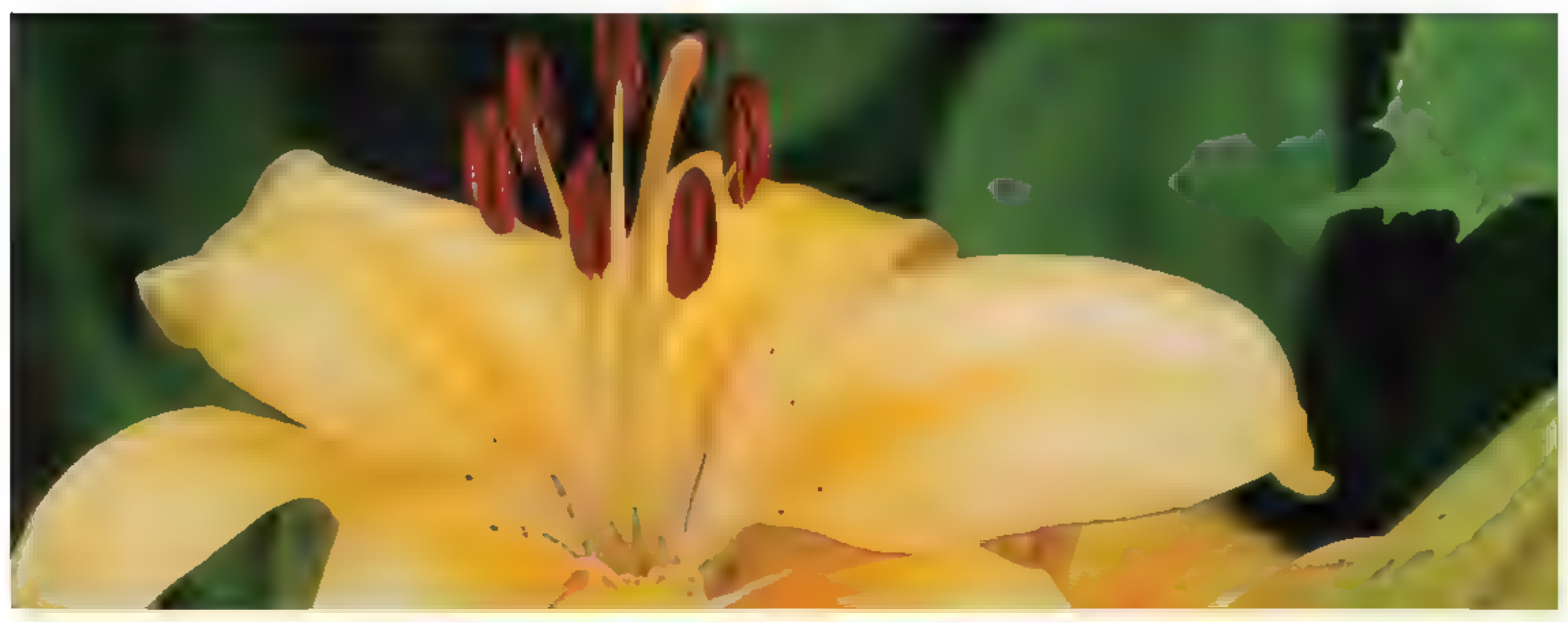

Create a legacy

Leaving a bequest to the Garden creates a legacy that will benefit others for generations to come. If you have already included the Garden in your estate plans, we hope that you will share this information with us. We would like to express our gratitude and welcome you into the Heritage Society. Of course, your wishes for anonymity are respected. Please call (314) 577-9495 for further information, or visit our website at www.mobot.org. Click on Donate, then Planned Giving.

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Mr. Ronald Willard Snowden
The Brazinski Family
Mark and Ann Marie Brazinski

Ms. Genevieve M. Spencer
Miss Virginia A. Lehmann
Mr. and Mrs. Raymond Schultz

Mrs. Geraldine Stalzer
Ms. Susan B. Crump
Mr. Thomas L. Crump
Mr. and Mrs. John G. Gross

Mrs. Elenor Strauss and Mandy Strauss
Wayne, Fran, Carrie and Paul Garver

Mr. Nathaniel A. Tainter
Mr. and Mrs. R. B. Allen
Mr. and Mrs. William C. Hearst
Mr. and Mrs. Harlow M. Keeser
Ms. Patricia A. Kottmann
Mr. and Mrs. William F. Kuhlmann
Mr. and Mrs. Don Pallett
Mr. and Mrs. Arthur F. Tainter

Betty Ann Taylor
Ms. Jennifer L. Taylor

LCpl. Eric J. Thoma, USMCR
Mr. and Mrs. Leonard J. Thoma

Mrs. Jane P. Thomas
Mr. and Mrs. Richard Shaw
Ms. Sarah J. Snell

Cailyn Thompson
The Muench, Nichter, Jacobs, and Heller Families

Mr. Thomas G. Thompson
Mrs. Helen A. Thompson

Mrs. Maurine Tien
Ms. Susan K. Graf

Jody Traylor
Mr. and Mrs. Brian Duffy

Mrs. Jewell Mae Tschappler
Mrs. Edith E. Graber

Mrs. Karen D. Waggoner-Ducey
Mrs. Alijda Barendregt

Mrs. Eleanor Mastin Ward
Mrs. Frances H. Jones

Mr. Robert X. Weidenbenner
Mrs. Louis E. Sauer

Mr. Daniel White
Mr. and Mrs. Donald L. Ross

Mary Ellen Buchanan Whiteside
Ms. Wendy M. Wells

Mrs. Dora Alice Witt-Fredrickson
Mrs. Corrine Overmann

Kingsley (Skip) Wright
Mr. Kingsley O. Wright, Sr.

Mr. Harry E. Wuertenbaecher, Jr.
Mr. and Mrs. Donald W. Anthon
Patricia R. Arnold
Barbara Barenholtz and Milton Hieken
Mr. and Mrs. Clarence C. Barksdale
Ms. Patricia Barrett
Mr. and Mrs. Rick Barry
Mr. and Mrs. James G. Berges
Mr. Robert L. Blanke, Jr.
Mr. and Mrs. Vance P. Braxton, Jr.
Brentwood Square Partners, LLC
Mr. and Mrs. J. Rodney Bryan
Mrs. Jane D. Bryan
Ms. Elise R. Cady
Mr. and Mrs. J. J. Landers Carnal
Mr. and Mrs. C. A. Case, Jr.
Mr. and Mrs. Joseph P. Ciapciak
Dr. and Mrs. Robert S. Cohen
Ms. Lois McAdam Cook
Mr. and Mrs. Andrew F. Corley
Dr. William H. Danforth
Mr. and Mrs. Phillip C. Desloge
Mr. and Mrs. Taylor S. Desloge
Mr. and Mrs. Quintus L. Drennan, Jr.
Mr. and Mrs. John M. Drescher, Jr.
Dr. and Mrs. Clay Dunagan
Mr. and Mrs. Howard Elliott, Jr.
Mr. William A. Frank
Mr. and Mrs. Jerry Garbutt
Mr. John G. Goessling
Mrs. Helen B. Gross
Mrs. Robert T. Hensley, Jr.
Mr. and Mrs. Frederick A. Hermann, Jr.
Mr. and Mrs. A. Charles Hiemenz III
Mrs. Arthur C. Hiemenz, Jr.
Mr. Edward Daniel Higgins
Mr. Daniel L. Hill
Dr. and Mrs. J. Joseph Horan
Mr. and Mrs. James H. Howe III
Mr. and Mrs. Harold T. Jolley, Jr.
Dr. and Mrs. David G. Kennedy
Mr. and Mrs. Newell S. Knight, Jr.
Mrs. Martin Kodner
Mr. and Mrs. Charles E. Kopman
June and Fred Kummer
Laughing Stock Syndicate
Mr. and Mrs. John K. Lilly
Mr. and Mrs. Richard J. Lincoff
Lindell Bank
The Lloyd Family
Carolyn and Joseph Losos
Mr. and Mrs. Kenneth A. Marshall
Mr. and Mrs. Paul Martin
Mr. and Mrs. Lansden McCandless, Jr.
Mr. and Mrs. James S. McDonnell III
Mr. and Mrs. Lucius B. Morse III
Ms. Susan Mulligan
Ms. Jan Pass
Mr. and Mrs. Jeffrey H. Pass
Mr. and Mrs. Thomas J. Purcell, Jr.
Mr. and Mrs. H. William Reisner, Jr.
Mr. and Mrs. Christopher R. Reither
Mrs. Frances W. Remington
Mr. and Mrs. John R. Roberts
Mr. and Mrs. Jim Rosen
Miss Virginia D. Schaefer
Mr. and Mrs. Leo B. Schmid
Mr. and Mrs. Terry E. Schnuck
Mr. and Mrs. Roger Schwab
Mr. and Mrs. Edwin G. Shifrin
Ms. Pamela M. Siegel
Mrs. Carole Simon
Mr. William W. Spivy
St. Peter's Playgroup
Mr. and Mrs. Robert J. Staniforth
Mr. and Mrs. Walter G. Stern
Mr. and Mrs. Kenneth F. Teasdale
Therapeutic Horsemanship, Inc.
Mr. and Mrs. Jack E. Thomas
Mr. and Mrs. Clarence M. Turley, Jr.
Mr. and Mrs. Charles D. Van Dyke
Mr. and Mrs. John K. Wallace, Jr.
Mr. and Mrs. Frank P. Wolff, Jr.
Mr. and Mrs. Charles Wulfing

Mr. Samuel Zibit
Mr. and Mrs. Jack Finkelson

Mrs. Irene Zielmann
Mr. and Mrs. Scott Hale

Mr. Joseph Zimmerman
Pat and Don Hardin
Jerry and Mary Robinson
Susan and Ken Comerilk
Barb and Lonnie Bailey

Members' Entry Court

Bricks dedicated at the Garden January through March 2009.

Engraved clay bricks and signature bronze bricks are a wonderful way to commemorate any special occasion, as well as final memorials. For additional information regarding the Garden's brick program, please contact the Institutional Advancement Office at (314) 577-0291 or visit www.mobot.org.

Signature Bronze Bricks

Frances FitzGibbons
Ms. Dorothy R. Almon
Mr. and Mrs. James R. Berryhill
Mrs. Renee Bohall
Ms. Sharon Byerly
Mr. and Mrs. Neil DeForest, Jr.
Mr. and Mrs. Frank J. Dillman
Elsevier
Ms. Cynthia FitzGibbons
Mr. and Mrs. Dennis C. Frentzel
Mr. and Mrs. Robert H. Frentzel
Mr. and Mrs. Daniel H. Heitmann
Mrs. Lisa R. Jellinek
Mrs. Dolores Longworth
Mr. and Mrs. Curt D. Menzel
Mr. and Mrs. Franklin Naive
Mr. and Mrs. Steven T. Randall
Miss Kris Wenninghoff

Jacqueline A. Weigel
Mr. and Mrs. Jeffrey D. Backowski
Ms. Anne-Laure Vieille Giustini
Mr. Anthony L. Giustini
Mrs. Helen T. Gregory
Mr. and Mrs. David A. Laramie
Ms. Stacy Nicholson
Ms. Catherine J. Pratt
Fern, Larry, Karen, Steve, and Tracey Schriefer
Mr. and Mrs. Lawrence Schriefer
Ms. Barbara A. Weigel
Mr. and Mrs. Richard D. Weigel
Mr. Robert E. Weigel
Mr. and Mrs. Tony J. Weigel

Engraved Clay Bricks

Shirley Bacon
Mr. and Mrs. Keith Bacon

Deanne and Gordon Brown
Mr. and Mrs. Gordon R. Brown

J. Richard and Phyllis Cone
Mr. J. Richard Cone

Donald A. Dallas
Helen P. Dallas
Helen T. Dallas
Ms. Susannah D. Fuchs

Skippy Dennis
Mr. and Mrs. David Bentley
Mr. and Mrs. Rob Dennis and Devin
Ms. Valerie Dennis

Frankie Muse Freeman
Metropolitan Zoological Park and Museum District

John Joseph Hagan
Yasmin Hagan Mounir
Mr. and Mrs. Joseph C. Hagan

Mary Jane Hennon
Mr. Glenn E. Kopp

Linda S. Koch
Mr. and Mrs. Steven F. Leer

Roberta Lyon May
Mr. Richard C. May

Ann Rufkahr
Paul's Supermarket

Audra Claire Schmitt
Mr. and Mrs. Ronald E. Rauh

Irv and Vivian Siegel
Mr. Irv D. Siegel

Robert S. Small, Jr.
Ms. Linda K. Small
Mr. James Small

Anna Marie Kuhn Surovik
Ms. Janis Kuhn-Little

Sophia M. Sachs Butterfly House Tributes & Pavers

To learn more about these opportunities, call (314) 577-0291 or visit www.butterflyhouse.org.

Tributes and Pavers dedicated at the Sophia M. Sachs Butterfly House January through March 2009.

Tributes

In Memory of

Anna Bauer
Bruce and Jackie Cooper

Mr. James Henry Foley, Jr.
Ms. Judith A. Rosen

Mrs. Louise Hester
Ms. Helen Van Derhyden

Carson Lee Mann
Mr. Phil Galante

Dr. Jules M. Snitzer
Tammy Balch
Mr. and Mrs. James G. Berges
Diann Bomkamp
Paula Carlton
Linda Carron
Dr. and Mrs. Patrick J. Cavanaugh
Mr. and Mrs. Bruce A. Cramer
Mr. Stephen E. Cupples
Mrs. Marilyn Fries
Florence Giles
Jai-Jai, Sandy, and Alex Goldstein
Mr. and Mrs. Albert J. Haller
Ms. Jackie Juras
Linda Keller
Lucy L. Lopata
Mr. and Mrs. James P. O'Grady
Mrs. Elizabeth Papagianis
Dr. and Mrs. James R. Payne
Mrs. Jean Racowsky
Ms. Judith A. Rosen
Dr. and Mrs. Douglas K. Ross
Sherry Salmieri-Rumfelt
Dr. and Mrs. James W. Scott
Dr. and Mrs. George D. Selfridge and Family
Ms. Suzanne Lee Sicher
Dr. and Mrs. Fredric M. Simowitz
Dr. and Mrs. Lari D. Slane
Mrs. Jean Speranza
Mr. and Mrs. Matt Stapf
Mr. Robert W. Streett
Dr. and Mrs. Murray Weidenbaum

Kaiden and Kennedy Wengler
Kris and Mark Survant

Pavers

Grace Barch
Ms. Barbara A. Aylward

Betty and Rick Dopuch
Mr. Charles R. Dopuch

Jim Foley, Jr.
Richard and Gayle Mueller
Mark and Jeanne Naeger
Tony and Jackie Naeger

Julie A. Newell
Mr. Ronald E. Newell

Paul M. Ross
Dawn Bordeleau
Missy Castro
Megan Engler
Stacey Kirkbride
Suzanne Ritter
Charlene Urban

Joe Session, Jr.
Dr. Lisa Romkema

Dr. Jules M. Snitzer
Dr. and Mrs. Eliot B. Hoffman
Mr. and Mrs. Howard I. Hoffman
Mrs. Mildred Hoffman
Mr. Stuart Z. Hoffman and Ms. Rita R. Rothschild

Jules Snitzer
Mr. and Mrs. Eric P. Newman

Mike and Jessica Sullivan
Mr. and Mrs. Ronald M. Smith

Bette Taxman
Mr. and Mrs. Paul Taxman

James Wilds
Mr. and Mrs. Robert Wilds

Bon appetit!

Eating out? The finest table in town might be as close as the backyard. Summer's the perfect time to grill and entertain with family and friends. The Garden Gate Shop has everything you'll need to make your get-together a real celebration. You can also shop online at www.gardengateshop.org. Questions or comments, call us at (314) 577-0865.

GARDEN GATE SHOP.ORG

All proceeds benefit the Missouri Botanical Garden.

June Events

Visit www.mobot.org for the latest information.

illustration by Maritz

EarthWays: Living the Green Life

Now through October, Brookings Interpretive Center ☺
Let the Tree of Life and her animated friends guide you through this interactive exhibit of technology and ideas for living a sustainable life. Have fun taking a virtual ride through winding trails or become a "power plant" and generate your own electricity, just two of the great activities that will help you learn to grow a greener lifestyle.

Pick up a coupon at the exhibit good for 20 percent off any green or fair trade item in the Garden Gate Shop or at the Little Shop. Garden members receive an extra 10 percent off.

Ask the Experts | *Thursday, June 11, 6 to 8 p.m.; Saturday, July 18 from 10 a.m. to 3 p.m.* Expert exhibitors and staff answer your questions about green products and resources.

Exhibitors include: AmerenUE, Anjon Manufacturing, Big Shark Bicycle Company, Greenscape Gardens, Growing Green, Henges Interiors, Hoffmann Brothers Heating, Plumbing and Air Conditioning, Home Green Home, International Mulch Company, Land Works Inc., Missouri Valley Renewable Energy, The Pulitzer Foundation for the Arts, R.E.A. Homes, RSI Kitchen & Bath, RSL Lighting, St. Louis Composting, WaterFurnace, and Water-Tech Irrigation.

EarthWays: Living the Green Life was designed and is sponsored by Maritz.

Whitaker Music Festival ☺

Wednesdays, June 3–August 5, 7:30 p.m. (free admission after 5 p.m.)
Now in its 15th year, the open-air Whitaker Music Festival presents ten weeks of free Wednesday evening concerts under the stars. Enjoy the musical talents of many noted St. Louis-area performers, and take advantage of this opportunity to picnic on Garden grounds. Picnic fare and beverages are also available for purchase on-site. The Children's Garden is open until 7 p.m., weather permitting. For the complete schedule, parking, and rain information, visit www.mobot.org.

The festival is funded by the Whitaker Foundation, which supports St. Louis arts and parks to promote common heritage, celebrate diversity, and encourage vitality within the community.

Members' Musical Evening ✿

Friday, June 5, 5:30 to 8 p.m., Spoehrer Plaza
Bring a picnic dinner, lawn chairs and blankets, and enjoy an evening of big band music and dancing with the Gateway City Big Band. Free for Garden members and their guests.

garden party Nights

Thursday nights through Labor Day (except June 25), 5 to 9 p.m. ☺
Enjoy street paintings from the best artists around the state. Sample complimentary wine and beer, and more. Admission includes Children's Garden. See website for details.

☺ = fun for families
✿ = members' event

Illinois Appreciation Week

Sunday, June 7 through Saturday, June 13
Illinois residents enjoy half-price Garden general admission (a $4 value), a 10 percent discount in the Garden Gate Shop, and a 20 percent discount off new or gift memberships purchased this week.

Anniversary Celebration ☺

Monday, June 15, 9 a.m. to 10:30 p.m.
Join special guests as we celebrate with family entertainment, an outdoor movie night, and much more! In honor of the Garden's 150th anniversary, we are pleased to offer a special reduced admission of $1.50 (Children's Garden also $1.50). See website for details.

Members' Day: A Tour of the Victorian District ✿

Wednesday, June 17, 9 a.m. to noon, Tower Grove House
Enjoy a docent-led tour of the Lichtenstein Victorian District, including Tower Grove House, founder Henry Shaw's country estate. Small group tours offered at 9, 10, 11 a.m., and noon.

Members' Event: Midsummer Night's Dinner Dance ✿

Saturday, June 27, 6:30 to 10:30 p.m., Spink Pavilion
Celebrate good times with an evening of great food and lively music. Dance the night away to celebrate 150 years at the Garden. Tickets: $70 ($60 for members; $50 for Young Friends). Call (314) 577-9570 to reserve your spot or visit www.mobot.org/membership. For information, call (314) 577-5154.

June 2009

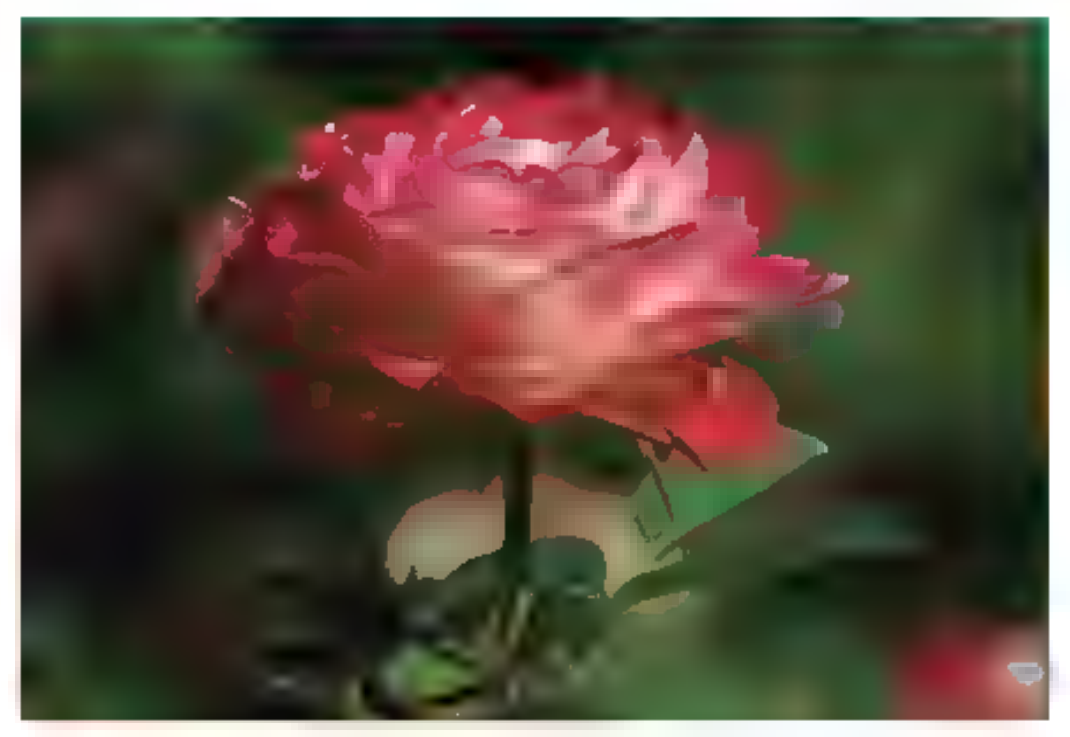
average temperature: low 65.9°, high 85.3°
average monthly precipitation: 3.76 in.

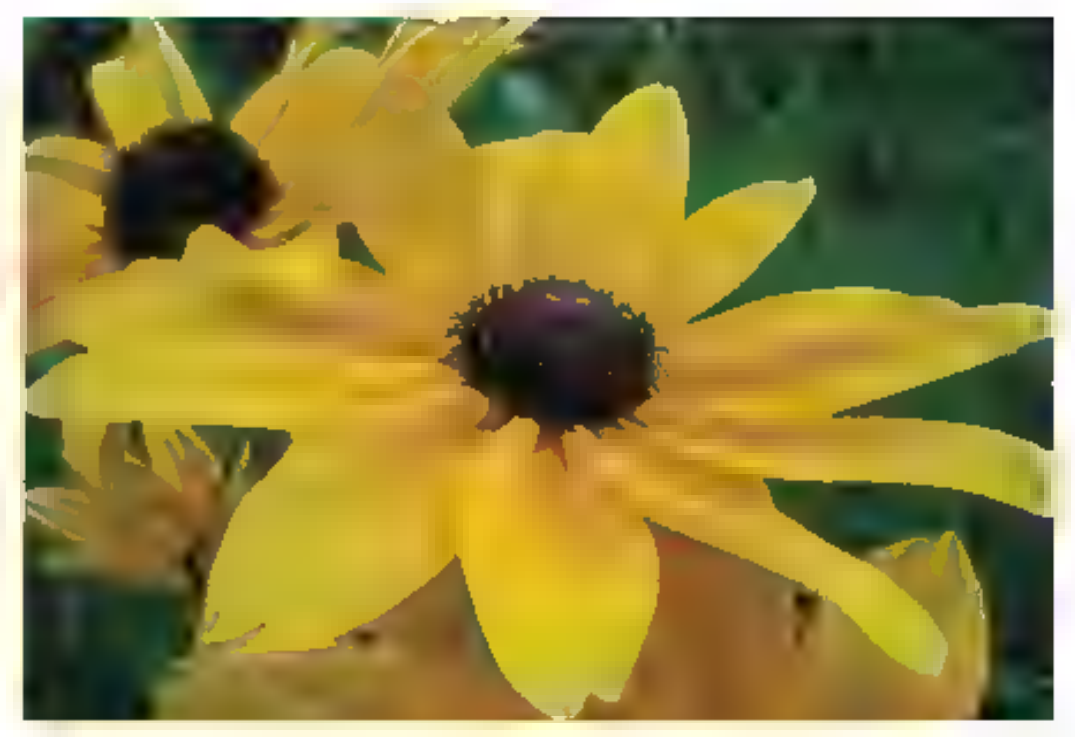
What's in bloom?

download the podcast at www.gardeninghelp.org

clematis

petunia


rose


rudbeckia

stokes aster

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
 Tick...tock...Floral Clock! Don't miss it this year through October	01 Shared Anniversary: Botanical Gardens and Conservation, lecture by Dr. Stephen D. Hopper, director of the Royal Botanic Gardens, Kew, 2 p.m. MC Power of Plants student artworks through June 30. RC	02	03 whitaker MUSIC FESTIVAL 2009 Peter Martin	04 garden party Nights	05 ✿ Members' Event: Members' Musical Evening Camp Bugaloo: Nature's Alphabet. 9:30 a.m. BH $☎	06 Carnivorous Plant Society show and sale Hosta Society show and sale Presentation of eco-friendly "Thymes" products, GGS Anthony W. Kahtz signs *Perennials for Midwest Gardens*, noon to 2 p.m., GGS First Time Fishing for Kids (ages 6-12). 9 a.m. SNR $☎
07 Illinois Appreciation Week Camp Bugaloo: Nature's Alphabet. 12:30 p.m. BH $☎	08 Illinois Appreciation Week	09 Illinois Appreciation Week	10 MUSIC FESTIVAL 2009 St. Louis Stompers Illinois Appreciation Week	11 Illinois Appreciation Week Native Plant School: Rain Gardening. 1 p.m. SNR $☎ garden party Nights	12 Illinois Appreciation Week Camp Bugaloo: Nature's Alphabet. 9:30 a.m. BH $☎	13 Illinois Appreciation Week Metropolitan St. Louis African Violet Council show and sale Ellen Dugan signs *Garden Witch's Herbal*, noon to 2 p.m. GGS Lisa Lohman jewelry trunk show, GGS
14 FLAG DAY Metropolitan St. Louis African Violet Council show and sale Lisa Lohman jewelry trunk show, GGS Camp Bugaloo: Nature's Alphabet. 12:30 p.m. BH $☎	15 Anniversary Day Celebration	16 Dr. Raven throws first pitch, 7 p.m., Busch Stadium	17 whitaker MUSIC FESTIVAL 2009 Scott Alberici ✿ Members' Day: A Tour of the Victorian District Edna Campos Gravenhorst signs *Southwest Garden*, 9:30 to 11:30 a.m., GGS	18 garden party Nights	19	20 Great Green Adventures, 10:30 a.m. and 1:30 p.m. CG Mid America Regional Lily Society show, noon to 5 p.m. Recycled jewelry and Herbaria trunk shows, GGS Summer Solstice Garden Benefit at Terrene. EWC $☎ Public Tour Days, EWC
21 FATHER'S DAY Mid America Regional Lily Society show Herbaria trunk show, GGS Father's Day. BH Public Tour Days, EWC	22 	23 MBG welcomes the APGA	24 MUSIC FESTIVAL 2009 Mosby Group MBG welcomes the APGA	25 MBG welcomes the APGA. No Garden Party Nights.	26 MBG welcomes the APGA	27 ✿ Members' Event: Midsummer Night's Dinner Dance $☎ John Pils signing/trunk show, noon to 4 p.m., GGS West County Daylily Club sale MBG welcomes the APGA
28	29	30				

www.plasticpot
recycling.org

KEY *(All events take place at the Garden unless otherwise noted.)*

CA = Cohen Amphitheater
GGS = Garden Gate Shop in RC
JE = Jordan Education Wing in RC
KC = Kemper Center for Home Gardening
MC = Monsanto Center
RC = Ridgway Visitor Center
SS = Sassafras, the Garden's café in RC
ST = Shoenberg Theater in RC
SP = Spink Pavilion

Off-site locations:
BH = Butterfly House, (636) 530-0076
EWC = EarthWays Center, (314) 577-0220
LS = Little Shop Around the Corner, (314) 577-0891
SNR = Shaw Nature Reserve, (636) 451-3512

✿ Members-only event
☎ Reservations required, please see event details or call (314) 577-9400.
$ Fee

photos by Carol Gravens, Brian Mueller, Chris Starbuck, Allen Stentz, and Kevin Wolf.

July Events

CHUCK BERRY
july 24, 2009

THREE STARS OVER THE GARDEN

Friday, July 24, 8 p.m. (doors at 6 p.m.), Cohen Amphitheater
Roll Over, Beethoven! The Garden presents St. Louis icon Chuck Berry in concert. Three Stars over the Garden celebrates our 150th anniversary with a tribute to three St. Louis legends: Garden founder Henry Shaw, Garden president Dr. Peter H. Raven, and the "Father of Rock and Roll" Chuck Berry. All three are stars on the St. Louis Walk of Fame in the Delmar Loop.

Tickets are $60 for the general public. Garden members may purchase tickets for $50 online at www.mobot.org/tickets. Just enter your member number and the promotion code **henryshaw** to obtain your discount. Lawn seating only. Rain date is Sunday, July 26. See the Garden's website www.mobot.org for full details.

Visit www.mobot.org for the latest information.

Members' Day: Plants and Animals ✿ ☺

Wednesday, July 8, 11 a.m., Sophia M. Sachs Butterfly House
Learn about the important interactions between plants and animals that help keep Earth's ecosystems in balance and benefit us all. Curator talk followed by private tour.

photo by Josh Monken

Members' Event: Members' Family Picnic ✿ ☺

Friday, July 10, 6 to 9 p.m., Cohen Amphitheater
Bring your picnic basket and join hundred of members and their families for an evening of crafts, face painting, entertainment, and more. Advance reservations required; call (314) 577-9570 or log on to www.mobot.org/membership.

☺ = fun for families
✿ = members' event

Healthy You, Healthy Planet Festival ☺

Saturday, July 18, 10 a.m. to 3 p.m., grounds
Looking for fun ways to grow your healthy lifestyle? Spend a day at the Garden with medical experts from Siteman Cancer Center and enjoy cooking demonstrations, health screenings, lectures, and children's activities, including St. Louis's "Big Stretch!" *Co-sponsored by Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine.*

Happy Birthday, Henry! ☺

Friday, July 24, 10 a.m. to 3 p.m., Spoehrer Plaza
Garden founder Henry Shaw's 209th birthday celebration features free admission for all visitors all day long! Old-fashioned entertainment includes music, a silhouette artist, stilt-walker, magician, actors in Victorian fashions, children's games, and fun in the Children's Garden. Trailnet Petal Pedal kicks off at 10 a.m.

Tick..tock..Floral Clock!

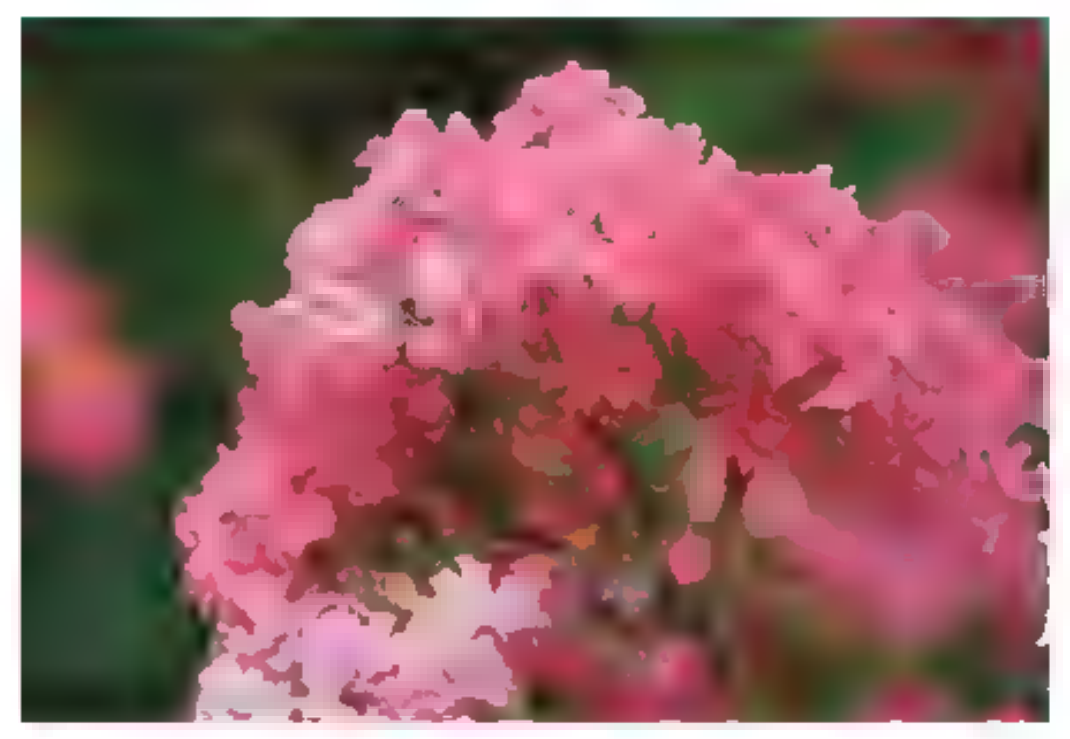
New summer plantings now on display in our 20-foot working floral clock! Power to run the clock is offset by renewable energy. Four solar panels on the Kemper Center for Home Gardening trellises supply clean, renewable energy to the Garden's electrical grid. Visit the Center for Home Gardening and monitor the power production from a computer station inside. *Support for the floral clock provided by Mr. and Mrs. William R. Orthwein, Jr.*

July 2009

average temperature: low 70.6°, high 89.8°
average monthly precipitation: 3.9 in.

What's in bloom?

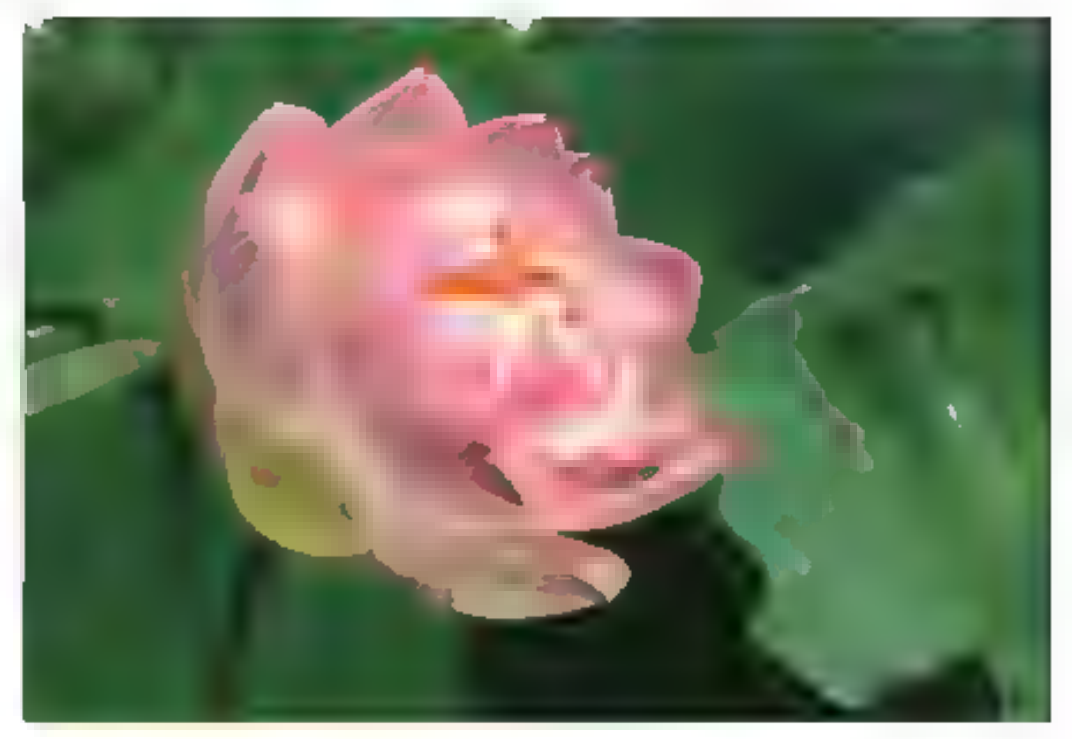
download the podcast at www.gardeninghelp.org


crape myrtle

daylily

mimosa

hibiscus


sacred lotus

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
EARTHWAYS Living the Green Life May through October			01 whitaker MUSIC FESTIVAL 2009 Dizzy Atmosphere	02 garden party Nights	03	04 INDEPENDENCE DAY
05	06	07 Robert Haas lecture and book signing. 3 p.m. ST	08 MUSIC FESTIVAL 2009 Tony Simmons Band Members' Day: Plants and Animals. 11 a.m. BH Backyard Science. 3 p.m. BH $☎	09 Native Plant School: Native Perennials. 1 p.m. SNR $☎ garden party Nights	10 Members' Event: Members' Family Picnic. 6 p.m. CA Madagascar photo exhibition by Frans Lanting.	11 Silver Cat jewelry trunk show. GGS
12 Silver Cat jewelry trunk show. GGS	13 Camp EarthWays: Young Green Builders. EWC $☎	14 Camp EarthWays: Young Green Builders. EWC $☎	15 whitaker MUSIC FESTIVAL 2009 Rogers, Nienhaus and Crawford Camp EarthWays: Young Green Builders. EWC $☎	16 Camp EarthWays: Young Green Builders. EWC $☎ Creepy Crawlers (ages 9 and up) 10 a.m. BH $☎ garden party Nights	17 Camp EarthWays: Young Green Builders. EWC $☎	18 Healthy You, Healthy Planet Festival. 10 a.m. to 3 p.m., Garden grounds John Pils signing/trunk show. noon to 4 p.m., GGS Public Tour Days. EWC
19 Public Tour Days, EWC	20 Camp EarthWays: Advanced Green Builders. EWC $☎	21 Camp EarthWays: Advanced Green Builders. EWC $☎	22 MUSIC FESTIVAL 2009 Farshid Etniko Camp EarthWays: Advanced Green Builders. EWC $☎	23 Camp EarthWays: Advanced Green Builders. EWC $☎ garden party Nights	24 HENRY SHAW'S BIRTHDAY THREE STARS OVER THE GARDEN Trailnet Petal Pedal. Register at 10 a.m. Camp EarthWays: Advanced Green Builders. EWC $☎	25 Henry Shaw Cactus Society show and sale Sew Good and Trendy trunk show, GGS Bug Hunt (ages 2–12). 11 a.m. BH
26 Henry Shaw Cactus Society show and sale Sew Good and Trendy trunk show, GGS	27 Henry Shaw Cactus Society show and sale	28 Henry Shaw Cactus Society show and sale	29 MUSIC FESTIVAL 2009 Ralph Butler Henry Shaw Cactus Society show and sale	30 Henry Shaw Cactus Society show and sale garden party Nights	31 Henry Shaw Cactus Society show and sale	www.plasticpot recycling.org

photos by LeeAnne Gomes, Charles Schmidt, and Leslie Wallace.

August Events

Visit www.mobot.org for the latest information.

photo by Leslie Wallace

SAVE THE DATE:
Japanese Festival 2009 ☺

Labor Day weekend, September 5–7

Experience the lightning-fast drama of a sumo match, now with three *sumotori!* Listen to the thunderous pounding rhythms of *taiko* drums. Japanese Festival features fashion shows and flower arranging, martial arts and *anime* screenings. New this year: *bunraku*, the Japanese art of life-sized puppetry! Stroll through the Japanese Garden by candlelight. Browse the marketplace for Japanese souvenirs or the food court for green tea ice cream. Visit www.mobot.org to download the complete schedule.

Admission: $15 adults; $10 seniors (65+); $5 Garden members and children (12 and under). Avoid the lines: purchase advance tickets online. Visit www.mobot.org and click on "Tickets." Just enter your member number and the promotion code **henryshaw** to obtain your discount.

With sponsorship provided by Novus International, Inc.

Members' Day:
Pruning with Ben Chu ✿

Wednesday, August 5, 11 a.m., Shoenberg Theater

Join Garden horticulturist Ben Chu as he shares his best tips and ideas for pruning. Ben has decades of experience as the head of *Seiwa-en*, the Garden's world-famous Japanese Garden, where pruning is an art form.

Corporate Partner Day

Sunday, August 16, 9 a.m. to 5 p.m.

Employees of current Missouri Botanical Garden Corporate Partner firms receive a variety of benefits when they show their company ID, including free Garden admission for two adults and children ages 12 and under, admission to the Doris I. Schnuck Children's Garden, a 10 percent discount in the Garden Gate Shop, and a 20 percent discount on new or upgraded memberships. Check with your HR representative to see if your company is a Garden Corporate Partner or visit www.mobot.org/corporate.

Members' Day:
Cooking with Herbs ✿

Wednesday, August 26, 11 a.m. and 2 p.m., Kemper Center for Home Gardening

Join members of the St. Louis Herb Society for a cooking demonstration as they share recipes from their new cookbook. Advance reservations required; call (314) 577-5154.

Celebrate ☺ ✿
Membership Weekend

Saturday–Sunday, August 22–23

Celebrate membership with the five cultural institutions making up the Metropolitan Zoo-Museum District (ZMD)—the Missouri Botanical Garden, the Missouri History Museum, the Saint Louis Art Museum, the Saint Louis Science Center, and the Saint Louis Zoo. To participate, simply present your Garden membership card at any of the attractions above and you'll receive discounted or free entry to exhibitions, discounts on food, gifts, and membership!

☺ = fun for families
✿ = members' event

August 2009

average temperature: low 68.6°, high 87.9°
average monthly precipitation: 2.98 in.

What's in bloom?

download the podcast at www.gardeninghelp.org

button bush

dahlia

gladiolus

sunflower

water lily

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
EARTHWAYS Living the Green Life May through October						01 Henry Shaw Cactus Society show and sale
02 Henry Shaw Cactus Society show and sale	03	04	05 MUSIC FESTIVAL 2009 Anita Rosamond Members' Day: Pruning with Ben Chu. 11 a.m.	06 garden party Nights	07	08 Missouri Botanical Garden Daylily Association sale
09 Orchid Society of Greater St. Louis auction. Noon to 5 p.m.	10	11	12	13 Native Plant School: Prairie Reconstruction. 1 p.m. SNR $☎ garden party Nights	14	15 Public Tour Days. EWC
16 Public Tour Days. EWC Corporate Partner Day	17	18	19	20 garden party Nights	21 Camp Bugaloo: Nature's Alphabet. 9:30 a.m. BH $☎	22 RAMADAN BEGINS Members' Event: New Member Orientation. Noon, ST Missouri Botanical Garden Iris sale
23 Missouri Botanical Garden Iris sale Camp Bugaloo: Nature's Alphabet. 12:30 p.m. BH $☎	24	25 www.plasticpot recycling.org	26 Members' Day: Cooking with Herbs. 11 a.m. and 2 p.m. KC	27 garden party Nights	28 Camp Bugaloo: Nature's Alphabet. 9:30 a.m. BH $☎	29 Gateway West Gesneriad Society show and sale
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photos by Jami Ford, Lauren Kirkwood, Brian Mueller, Lee Shannon Rhoades, Leslie Wallace, and Laila Wessel.

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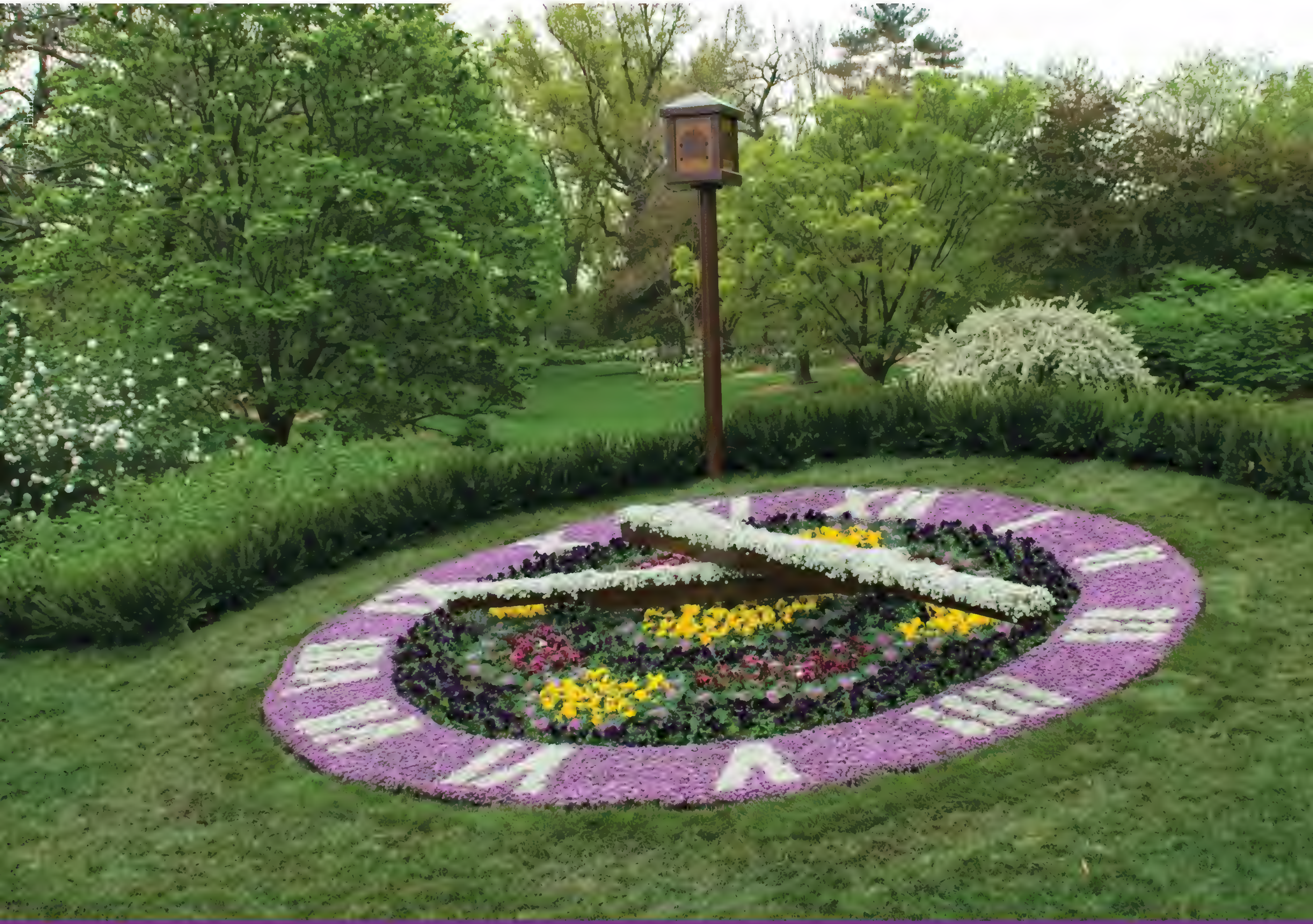

WHAT TIME IS IT?
TIME TO VISIT THE GARDEN!

Over 20 feet across and 6 feet high with a cuckoo clock, our historic floral clock features a 21st-century twist: clean, renewable solar power. Plantings change with the seasons through October. Don't miss it! *Support provided by Mr. and Mrs. William R. Orthwein, Jr.*

MISSOURI
BOTANICAL
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bulletin

Fall 2009 Vol. 97, No. 4 www.mobot.org

photo by Kristi Foster

President's Comment

The Missouri Botanical Garden is Henry Shaw's living gift to the city of St. Louis and to the world. Like all living things, it has grown and evolved over its lifetime, yet has remained faithful to Shaw's vision when he founded the Garden "for all time for the public good." While he might not recognize many of the physical changes that have taken place at the Garden over the last 150 years, Henry Shaw would certainly recognize the magnificent sassafras grove that gave his country home, Tower Grove, its name. The grove has endured since Shaw's lifetime, along with several other trees, all of which can still be seen when you visit the Garden today.

This summer we continued our yearlong celebration of the Garden's sesquicentennial anniversary with a number of events, including our May 30 gala, *The Garden Comes Alive*. Thanks to the support of sponsors including Emerson, Anheuser-Busch, and Maritz, the Garden truly did come alive for a memorable evening (see pages 6–7). More than 450 guests attended the event, which generated over $717,000 to support the Garden's mission.

The celebratory spirit continues this fall thanks to the efforts of individuals like Nora Stern and Ellen Dubinsky, the co-chairs of the *Best of Missouri Market®*, which takes place this year on October 3–4 and showcases some of the finest edible and artistic creations our state has to offer.

The autumnal equinox on September 22 marks the end of summer, and as we look forward to the change of season, we welcome Robert Hermann, Jr., and Marsha Rusnack, two new members of our board of trustees. We also mourn the passing of architect Phil Cotton, whose work for historic preservation lives on in many of the landmarks on the Garden grounds, in Tower Grove Park, and throughout the region.

As we prepare for the next 150 years of the Garden, we look for ways to further our mission and to help people make sustainable choices for the future. Whether through environmentally friendly lawn-care practices or switching from disposable plastic water bottles to refillable containers, small choices can yield big results as we all work to meet the challenges of global climate change and make the best decisions for people, plants, and the planet.

Peter H. Raven

Dr. Peter H. Raven, *President*

> *To discover and share knowledge about plants and their environment, in order to preserve and enrich life.*
>
> *– mission of the Missouri Botanical Garden*

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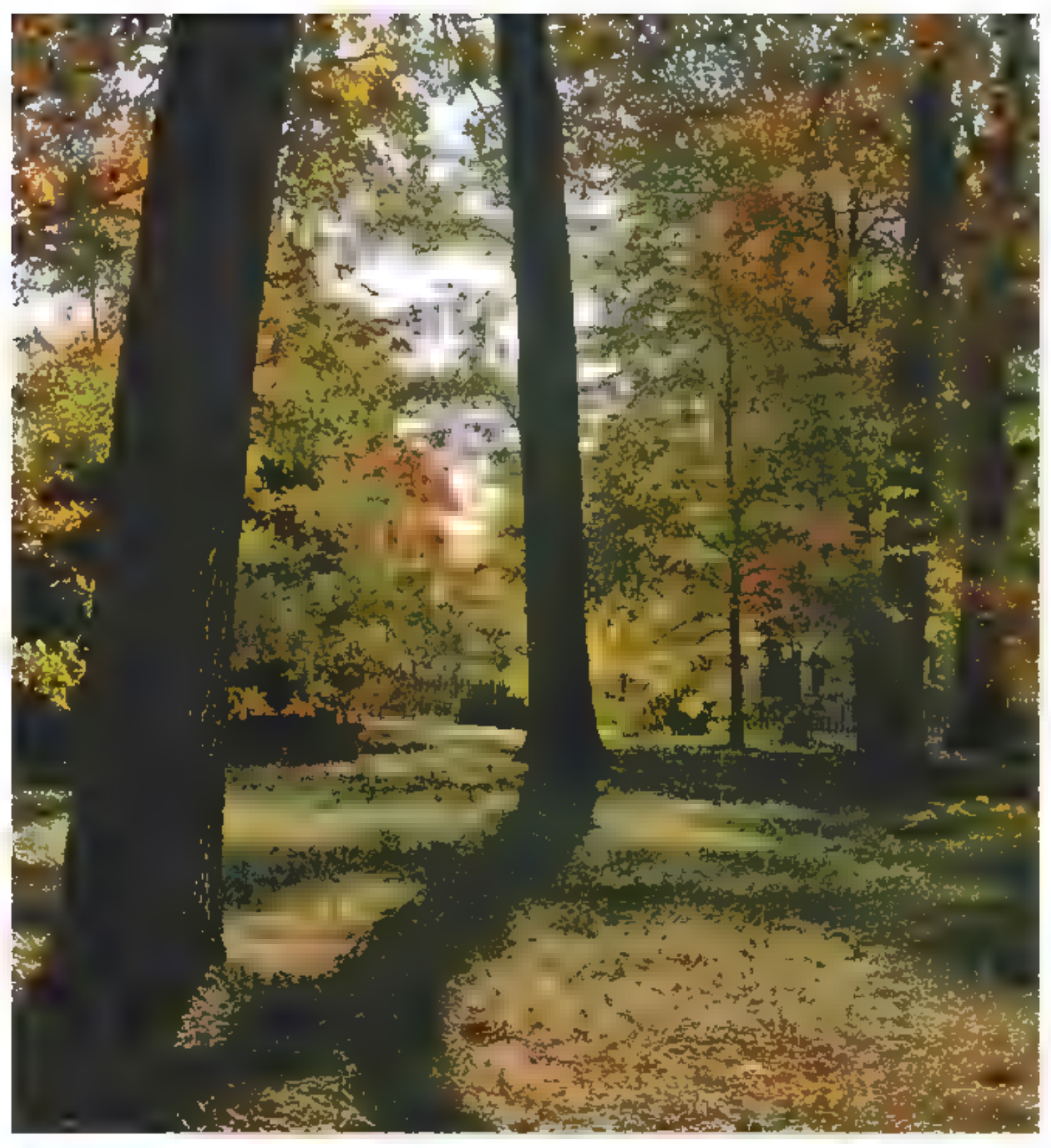

8–9
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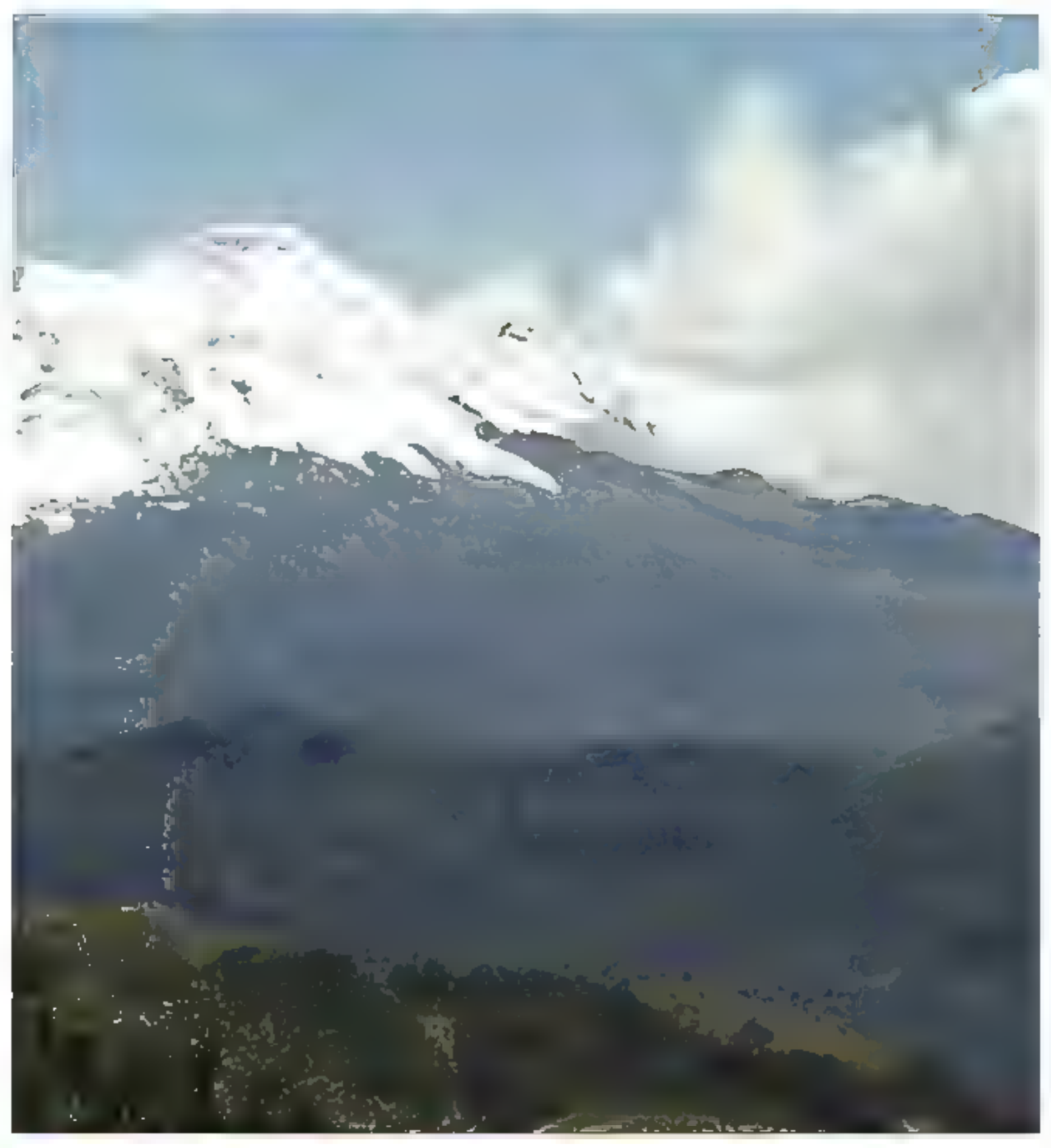
Sassafras dates back to the time of Henry Shaw



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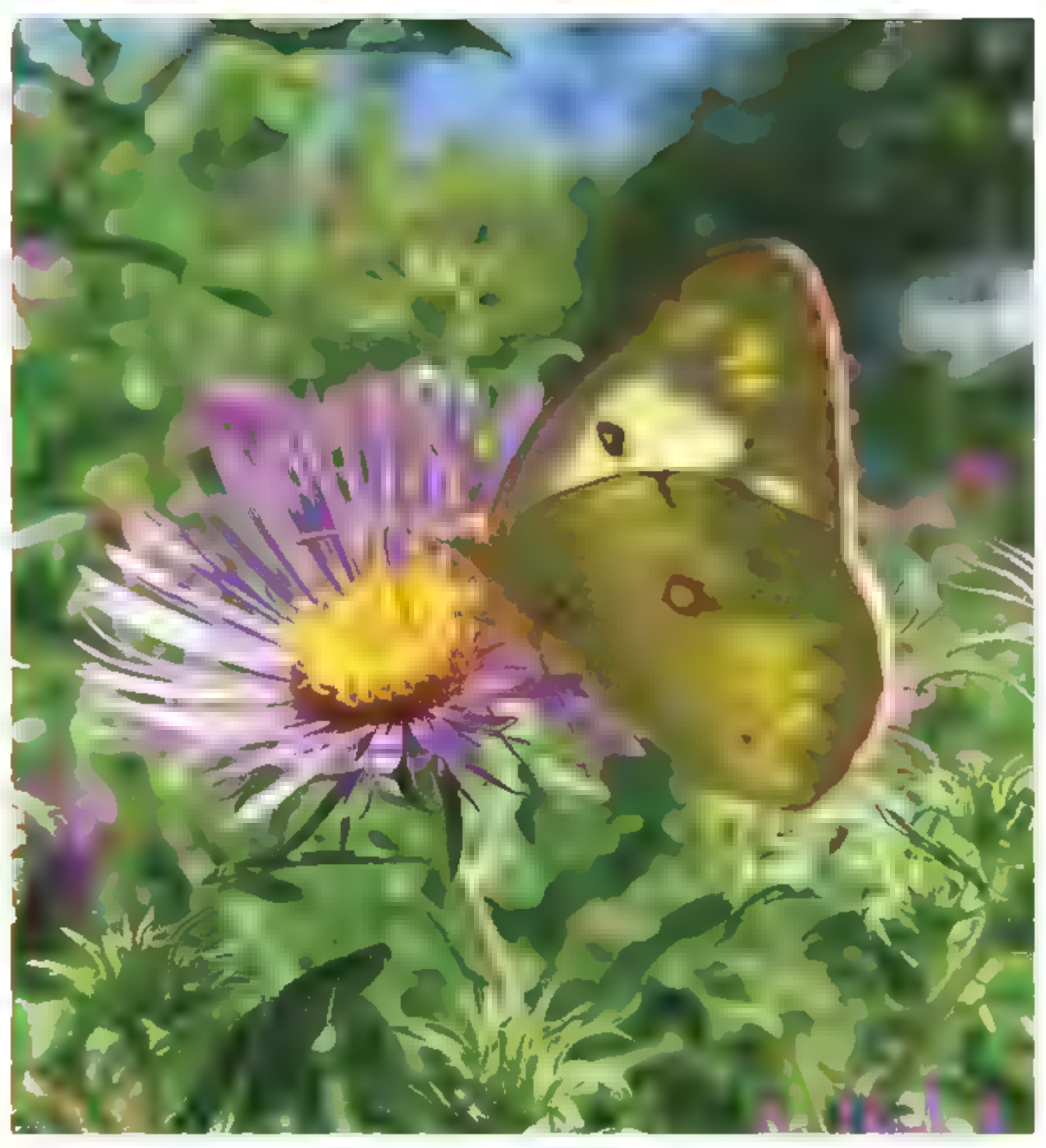

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Creating Landscapes for Wildlife
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Ready to Go Electronic?

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On the Cover:

Bald cypress, *Taxodium distichum*
Photographer: Lauren Kirkwood

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Editor: Jeff Ricker
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The *Bulletin* is a benefit of Garden membership.

The BULLETIN (ISSN 0026-6507) is published quarterly by the Missouri Botanical Garden, 4344 Shaw Blvd., St. Louis, MO 63110. Periodicals postage paid at St. Louis, MO

POSTMASTER: Please send address changes to Bulletin, Missouri Botanical Garden, P.O. Box 299, St. Louis, MO 63166-0299

Garden Hours

Open daily 9 a.m. to 5 p.m. (Closed December 25.)
Parking is free.

General Admission

Adults $8; Members and children 12 and under free
* *Special events require an additional fee.*
St. Louis City and County visitors, with proof of residency, receive a discount on admission and free admittance on Wednesday and Saturday mornings until noon (unless special event pricing applies).

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NEWS

MISSOURI BOTANICAL GARDEN

Refillable bottles are now on sale at the Garden.

Take back the tap!

Did you know that in 2007, at a blind tasting competition by the U.S. Conference of Mayors, St. Louis took home the "Best Tasting City Water in America" award? St. Louis water also meets or exceeds all federal and state regulations. Garden staff, volunteers, and visitors are encouraged to "Take Back the Tap" by quenching their thirst at Garden water fountains and by using refillable water bottles. Refillable water bottles are now sold at the Garden Gate Shop, Sassafras Café, Terrace Café, and the Children's Garden. All water at in-house Garden meetings is served in reusable pitchers, and bottled water is no longer sold in employee vending machines.

Plastic bottled beverages are simply not sustainable. According to the Earth Policy Institute, U.S. plastic bottle production requires more than 17 million barrels of oil. About 86 percent of those empty bottles land in the garbage instead of being recycled.

To learn more about the environmental impact of bottled water and what others are doing to promote tap water, go to www.takebackthetap.org/learn-more/environment.

Garden named Horticultural Landmark

The Missouri Botanical Garden was awarded the Horticultural Landmark designation by the American Society for Horticultural Science. The honor is bestowed upon the highest tier of horticultural sites around the world. Historical, scientific, aesthetic, or environmental sites are selected for their horticultural excellence. The award was presented July 28 at a special ceremony in Spink Pavilion during the society's annual conference held this year in St. Louis.

Welcome, New Trustees

Marsha Rusnack's community involvement has included work for 27 organizations and causes, especially those devoted to education and the arts. Since moving to St. Louis with her husband, Bill Rusnack, CEO of Clark Oil Co., in 1998, she has served on the Garden's Members' Board and was the group's president in 2003 and 2004. She has chaired or co-chaired numerous Garden events, including the Wing Ding Gala for the Butterfly House in 2004. In addition, she is a former president of the Friends Board at the Saint Louis Art Museum and current trustee of the Museum; former chairman of the Albert Einstein Society and former gala committee member at the Saint Louis Science Center; member of the Saint Louis Zoo Friends Board; and member of the nominating committee and award selection committee for the Arts and Education Council.

Robert R. Hermann, Jr., is chairman and chief executive of Hermann Companies, Inc. The company, founded in 1962 and headquartered in Clayton, produces plastic packaging for the retail food service and food processor industries, as well as institutional and supermarket films and microwaveable packaging. A graduate of Princeton University, Hermann has served on the boards of First National Bank of St. Louis and Central Bancompany, Inc. of Missouri. In addition to serving on the boards of the Saint Louis Zoo, St. Louis Children's Hospital, Municipal Theatre Association of St. Louis, Community School, and the endowment committee for St. Peter's Episcopal Church, he serves on the Garden's Sesquicentennial, Finance, and Sustainability committees of the board of trustees.

photo by Paul Stratmann

Garden President Dr. Peter Raven poses with Fredbird and Cardinals pitcher P.J. Walters before throwing out the ceremonial first pitch at Busch Stadium.

Batter up!

Dr. Peter Raven can add "pitcher" to his résumé. The Garden president threw out the first pitch at the St. Louis Cardinals' home game against the Detroit Tigers on Tuesday, June 16. The Cards went on to win the game 11–2.

Garden Receives AAM Re-accreditation

The Garden has earned re-accreditation from the American Association of Museums, the highest national recognition for a museum. The accreditation recognizes the Garden for its commitment to excellence in governance, collections stewardship, public programs, financial stability, high professional standards, and continued institutional improvement. The Garden has been accredited for the past three decades and is one of only 11 museums accredited in the state of Missouri. Olga Martha Montiel, vice president of Conservation and Sustainable Development, chaired the accreditation effort and managed the detailed process on behalf of the Garden.

Power of Plants winner

photo by Brent Johnston

Power of Plants contest winner Lauren Epley

Congratulations to Lauren Epley, from St. Francis of Assisi Middle School in St. Louis, who was the grand prize winner in the Garden's first ever *Power of Plants* contest. The contest challenged individuals and groups in kindergarten through twelfth grades to creatively tell the story of an amazing plant "superhero" through a two- or three-dimensional work of art. Lauren won a $1,000 savings bond for her innovative spin on the vanilla bean plant. Her winning entry inspired the superhero mascot for the 2009–2010 *Power of Plants* contest, which is sponsored by the Monsanto Fund. For more information, visit www.mobot.org/power.

Gateway Greening Turns 25

Gateway Greening, the organization promoting community gardening in the St. Louis area, is celebrating its silver anniversary with the release of *25 Years of Gateway Greening*. The book covers the history of the organization and includes an afterword by Garden president, Dr. Peter Raven. Copies can be purchased at Gateway Greening's headquarters, 2200 Washington Ave., or by mail. For information, visit, www.gatewaygreening.org.

photo courtesy MBG Archives

Philip Cotton (right) with Mr. and Mrs. Vernon Piper.

In Memoriam: W. Philip Cotton, Jr. (1932–2009)

Architect W. Philip Cotton, Jr., who played an instrumental role in the historic restoration of numerous structures both at the Garden and at Tower Grove Park over more than three decades, died June 17, 2009.

A graduate of Princeton University, Mr. Cotton was one of the St. Louis region's earliest historic preservation pioneers. His work at the Garden can be seen most notably in his design for the Piper Observatory, based on the observatory Henry Shaw had built in Tower Grove Park in 1877. He was also instrumental in renovations of the Museum Building, Shoenberg Administration Building, and Tower Grove House. At Tower Grove Park, Mr. Cotton was the primary architect for restoration projects, most notably the park's collection of Victorian-era recreational pavilions.

"He personally supervised, researched, and developed the plans for almost all of the important restoration projects," said park Director John Karel. "And he did so with meticulous attention to detail, scrupulous integrity, exemplary dedication, and a commitment to quality and to accuracy that was an inspiration to everyone here."

photo by Paul Stratmann

Citygarden Blooms Downtown

The look of downtown St. Louis was transformed July 1 with the opening of Citygarden. The 2.9 acre urban oasis on the Gateway Mall was developed by the Gateway Foundation in partnership with the City of St. Louis and houses 24 works of sculpture. The Citygarden design team consulted with Missouri Botanical Garden horticulture staff on plant material selection, emphasizing native Missouri trees, shrubs, grasses, groundcovers, and wildflowers, with consideration for tolerance of local conditions as well as advice on irrigation. In addition, Garden staff will continue to provide support to the maintenance staff of the garden and grounds. For more information, visit www.citygardenstl.org.

photos by Jasmine Elzy and Paul Straatmann

Dr. Raven with Sen. Claire McCaskill (left) and Rep. Russ Carnahan (right).

Legislators Attend Conference at Garden

U.S. Sen. Claire McCaskill and U.S. Rep. Russ Carnahan both attended the Third Annual Midwest Energy and Climate Policy Conference held at the Garden June 1–2 in association with REGFORM—Regulatory Environmental Group for Missouri—the St. Louis RCGA, and the Illinois Chamber of Commerce. The conference brought together experts from around the country to discuss energy and climate policy as it impacts the Midwest.

Garden Researcher Alan Graham Wins Awards

Dr. Alan Graham, Curator of Paleobotany & Palynology at the Garden, received the Botanical Society of America Merit Award in July for his lifetime of work on the origins and history of tropical vegetation. The Merit Award is the Botanical Society's highest honor, which it awards to individuals who have demonstrated excellence and/or provided exceptional service to the botanical community in basic research, education, and public policy.

Dr. Graham also received the Asa Gray Award from the American Society of Plant Taxonomists. In honoring him, the society noted Dr. Graham's extensive publications, which include 118 scientific articles, two sole-authored books, and two co-edited and co-authored books.

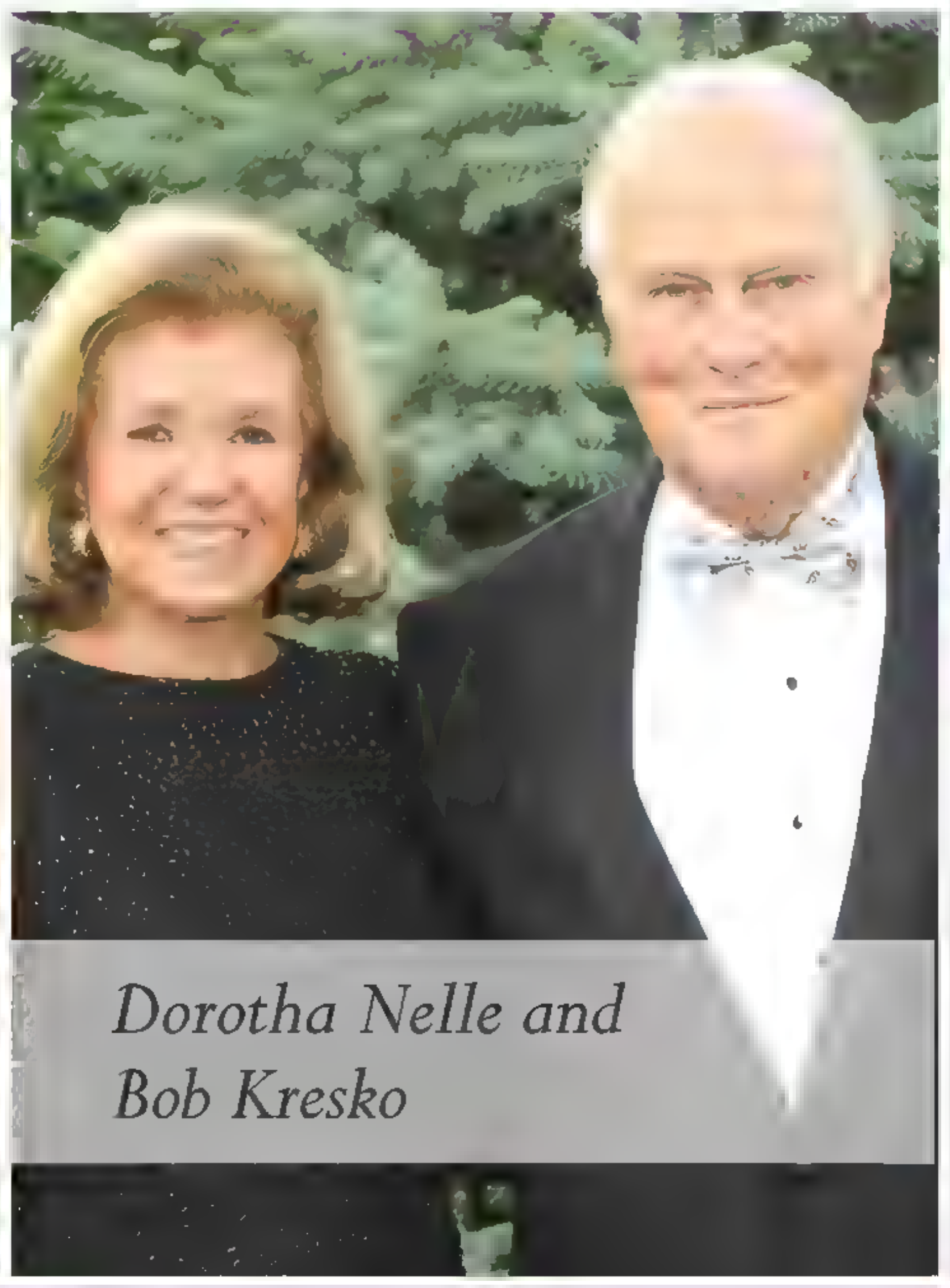
The Living Fountain

The Garden Comes Alive

Guests at *The Garden Comes Alive* gala at the Missouri Botanical Garden enjoyed cocktails amid the roses, a dinner overlooking the Garden's lovely reflecting pools, and an evening of the unexpected. Mingling among guests were performers adorned in butterfly attire, posing in the Garden's lovely fountains, and wrapped in ivy. The more than 450 gala guests were celebrating the Garden's 150th anniversary. The gala generated more than $717,000, served as a tribute to Garden President Dr. Peter Raven, and called attention to the Garden's work around the world to research plants and help inhabitants in the poorest countries of the world conserve resources and protect plants.

left to right back row: Nick Reding, Chris and Professor Stephen Hopper, Scott and Julie Schnuck, Dr. Patricia Raven; front row: Patricia Reding, First Lady Georganne and Governor Jay Nixon, Dr. Peter Raven, Gala Co-Chairs Peggy and Jerry Ritter

Chris Reifschneider and Julie Hantman

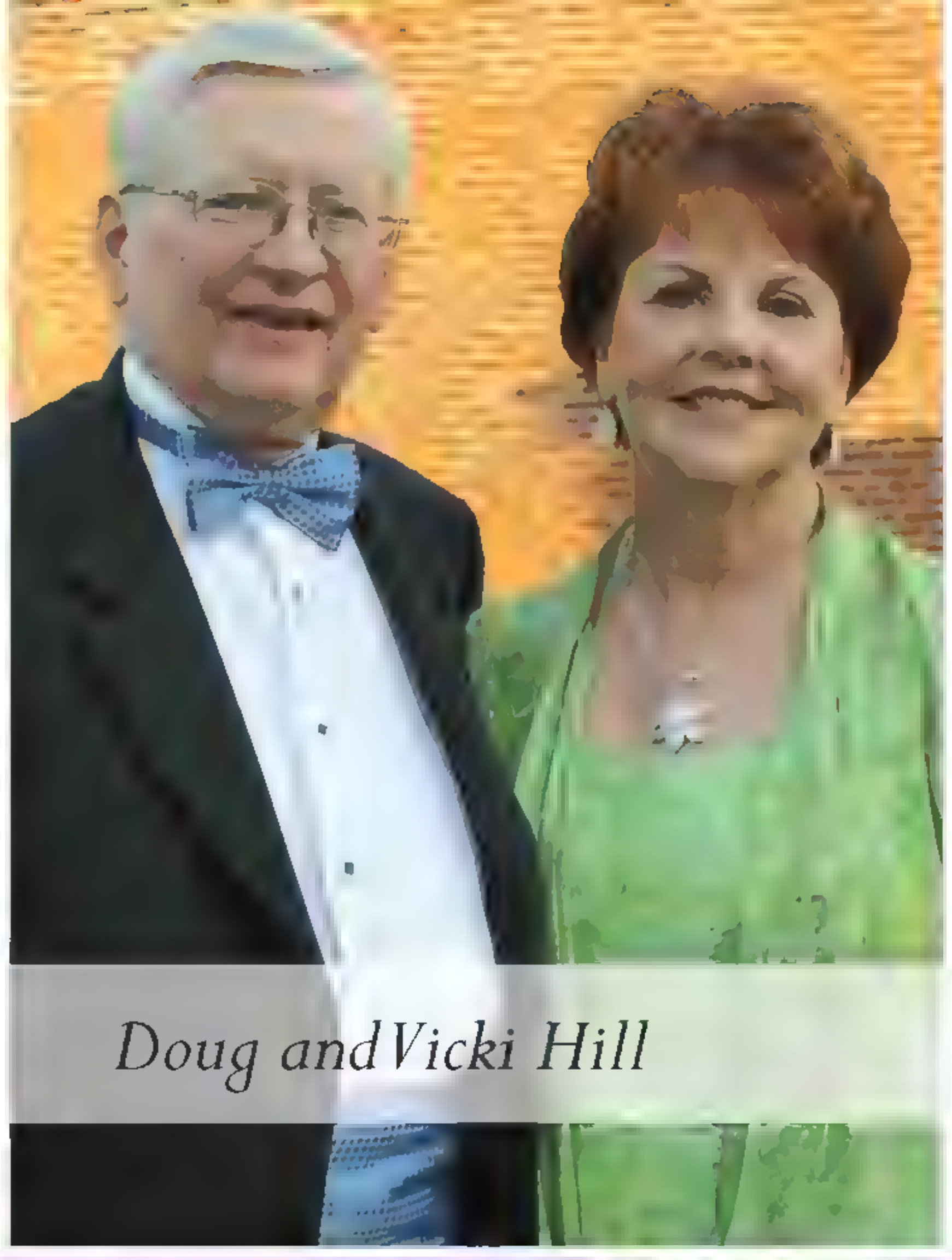


Dorotha Nelle and Bob Kresko

Butterflies greet guests at the Garden's Sesquicentennial Gala

photos by Josh Monken and Leslie Wallace

Tricia and Shawn Hagan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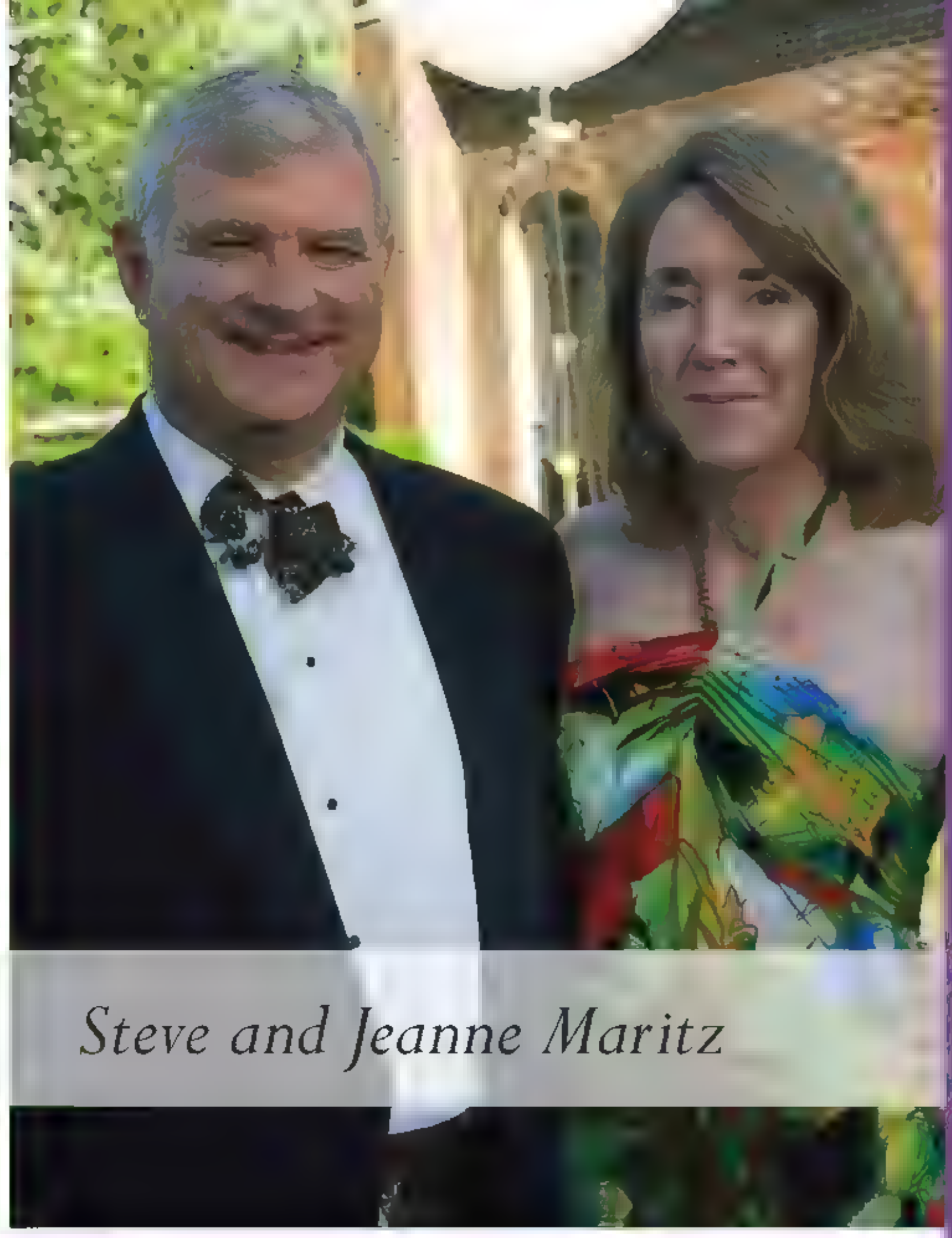
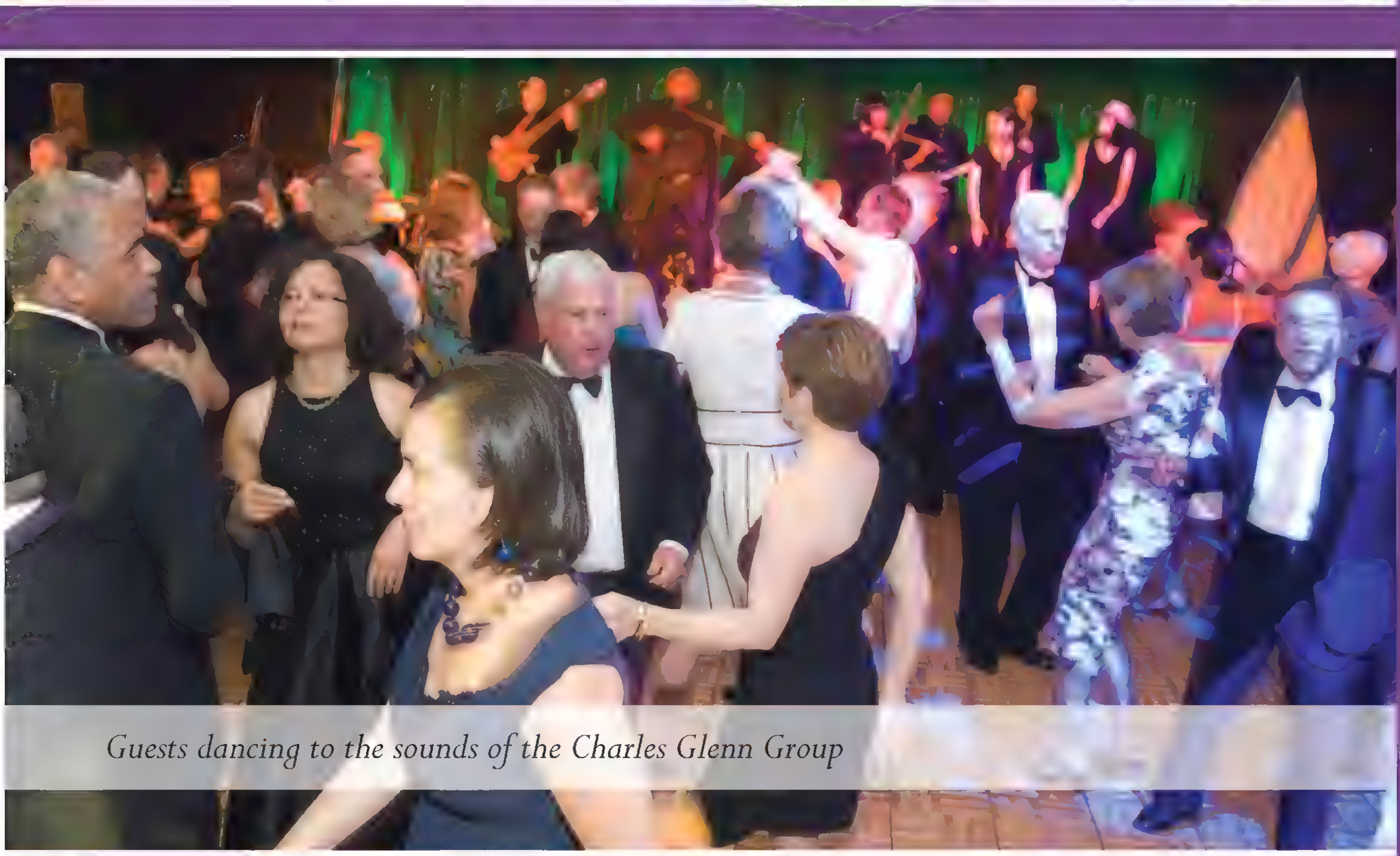
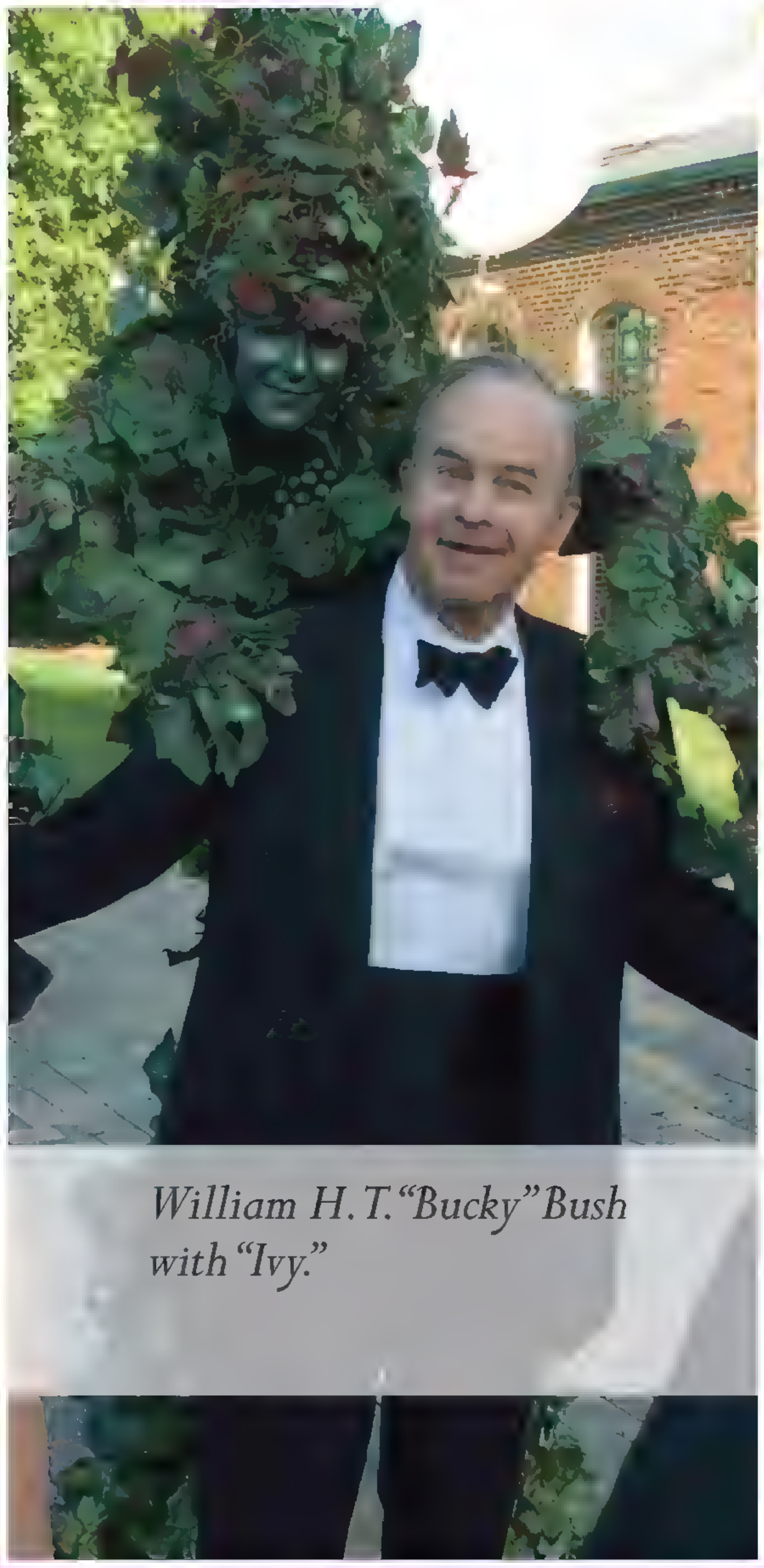

Steve and Jeanne Maritz


Guests dancing to the sounds of the Charles Glenn Group


William H.T. "Bucky" Bush with "Ivy."

Dr. Peter Raven, Mrs. Laura Orthwein, Dr. Patricia Raven

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The Grove & the Tower

Sassafras trees at Garden date back to the time of Henry Shaw

by Peter C. Hoch, Ph.D., Curator

In 1879, a group of St. Louis residents gathered at the home of one of the city's most distinguished citizens, Henry Shaw, to celebrate the 60th anniversary of his arrival in St. Louis in 1819. Still vigorous as he approached his 80th birthday, Mr. Shaw took the opportunity to recount his first visit at age 19 to the prairie—then outside the limits of St. Louis—now occupied by the Missouri Botanical Garden and its surrounding neighborhoods.

Shaw described the prairie as "uncultivated, without trees or fences, but covered with tall luxuriant grass, undulated by the gentle breezes of spring.... I also observed on the gently raising ground a clump of hazel bushes; thirty years later the hazel bushes had disappeared, and in their place had grown up a grove of oaks and sassafras laurels; in 1849 this house and tower were erected and it became Tower Grove." ("Laurel" refers to the laurel family, Lauraceae, in which *Sassafras* is classified.)

The grove of sassafras still stands between Tower Grove House and Shaw's Mausoleum. In fact, even though no individual sassafras tree appears on the Garden's list of oldest trees, it is quite probable that this "tower grove" of sassafras represents the oldest plant in the Garden.

Sassafras albidum, native to much of eastern North America, is one of only three species in the genus, the other two occurring in central China and Taiwan. This trans-Pacific distribution repeats a pattern found in many genera such as *Magnolia* and *Liriodendron* (tulip tree), probably part of a very ancient flora from prehistoric times.

Sassafras sprouts abundantly around the original plants, forming multiple stems via underground rhizomes. Under favorable conditions, individual trunks of sassafras can form trees up to 35 meters (120 feet) tall and 1.5 meters (5 feet) basal diameter,

The sassafras grove that Shaw noted in 1849 still grows in the Victorian District today.

but even when the main trunk dies, it may be surrounded by clonal offshoots. Because the grove beside Shaw's house has been observed and documented since at least 1849, this sassafras is at least 160 years old.

Sassafras is easily identified by its distinctive leaves, including oval, three-lobed, and most characteristically bi-lobed (mitten-shaped). Its small yellow flowers appear in spring, with male and female flowers produced on separate plants. Oil obtained from the dried roots contains safrole, originally used as a flavoring for teas, root beer, and other drinks, and as fragrance in perfume and soaps. However, in 1960 the U.S. Food and Drug Administration banned safrole from all consumables as a possible carcinogen. Dried and ground leaves, now treated commercially to be safrole-free, are still used to make filé powder, a spice used to flavor and thicken some types of gumbo. Sassafras wood has an orange tinge and is often used in furniture-making.

See the Rest of Shaw's Trees

Five trees on Garden grounds have been identified as specimens planted during Henry Shaw's lifetime (1800–1889). In addition to the sassafras grove, look for the trees listed below along with signs bearing the symbol above.

- Black gum (*Nyssa sylvatica*), circa 1885—located in the Japanese Garden.
- Osage orange (*Maclura pomifera*), circa 1850s—in the Doris I. Schnuck Children's Garden.
- Bald cypress (*Taxodium distichum*), circa 1874—near the Shoenberg Fountain.
- Ginko (*Ginkgo biloba*), circa 1884—near the Cleveland Avenue Gate House.

To learn more, visit www.mobot.org/150/shaw/trees/.

photo by Jasmine Elzy

Volunteer Service Recognition

On Thursday, June 11, the Garden hosted the annual volunteer service recognition luncheon honoring volunteers with awards for special service and for their 10-, 20-, 30-, and even 40-year commitments. The Garden is deeply grateful to its corps of volunteers, without whom we could not operate at current levels of international renown and community outreach.

Here's to Forty Years!

It takes a special commitment to dedicate 40 years of volunteer service. This year, the Garden was lucky to honor one of these unique volunteers.

Joyce Driemeyer joined the St. Louis Herb Society in 1969 after returning to St. Louis from the Far East. She worked in the greenhouse to propagate and grow plants for the Herb Garden and for the annual Herb Plant Sale. When the Herb Garden was enlarged in 1976, Joyce redesigned the western half, eliminating a lawn area, and introduced historic medicinal and dye plants and boxwood for winter interest. Joyce has been a Master Gardener since 1985 and also gives her time to the Horticulture Answer Service.

Thirty-year volunteers: Patty Mayes, Sue Rapp, Nancy Thompson.

Twenty-year volunteers: Shirley Bauer, Ann Bowen, Carol Donelan, Sondra Ellis, Jane Kahn, Linda Koenig, Virginia Laschober, Karen Smead Mondale, Suzanne Switzer, Donna Walker.

Ten-year volunteers: Rachel Anderson, Louise Bazzetta, Jerry Blanke, Suzanne Blanke, Paulette Bliss, Jack Breier, Sharon Brown, Minette Buhr, Cindy Capatosta, Ruth Carapella, Sylvia Clobes, Marie Cuttler, Jo Dalton, Teresa Flanagan, Alda Fridley, Candy Grisham, Karen Haller, Pam Hardy, Bob Harper, Arnold Haumesser, Phyllis Higgins, Tom Hohn, Becky Homan, Christine Joyce, Betty Kamman, LaVerne Koyn, Carol Kusterer, Janet Lemp, Louis Malin, Betty Manlin*, Peggy McCalpin, Albert Melman, Peggy Moehlenbrock, Bob Noe, Mary Alice O'Neill, Esther Pahl, Jo-Ann Partin, Peggy Pautler, Bonnie Pellegrini, Bruce Phillips, Mary Ann Randolph, Lola Reed, Susan Rentfrow, Helen Robinson, Faye Roth, Marsha Rusnack, Jane Saghir, Nancy Sauerhoff, Sarah Schmidt, Barbara Schrader, Ann Schuette, Margaret Silver, Barbara Simon, Paul Simpkins, Jules Snitzer*, Mary Pat Sullivan, Carole Vohsen, Janice Weil, Patricia Wemhoener, Pat Williams, Carolyn Willmore, Leon Zickrick.

* *deceased*

photo by David Neill

Climate Change at 15,000 Feet

High-Altitude Plants in Ecuador Struggle to Adapt

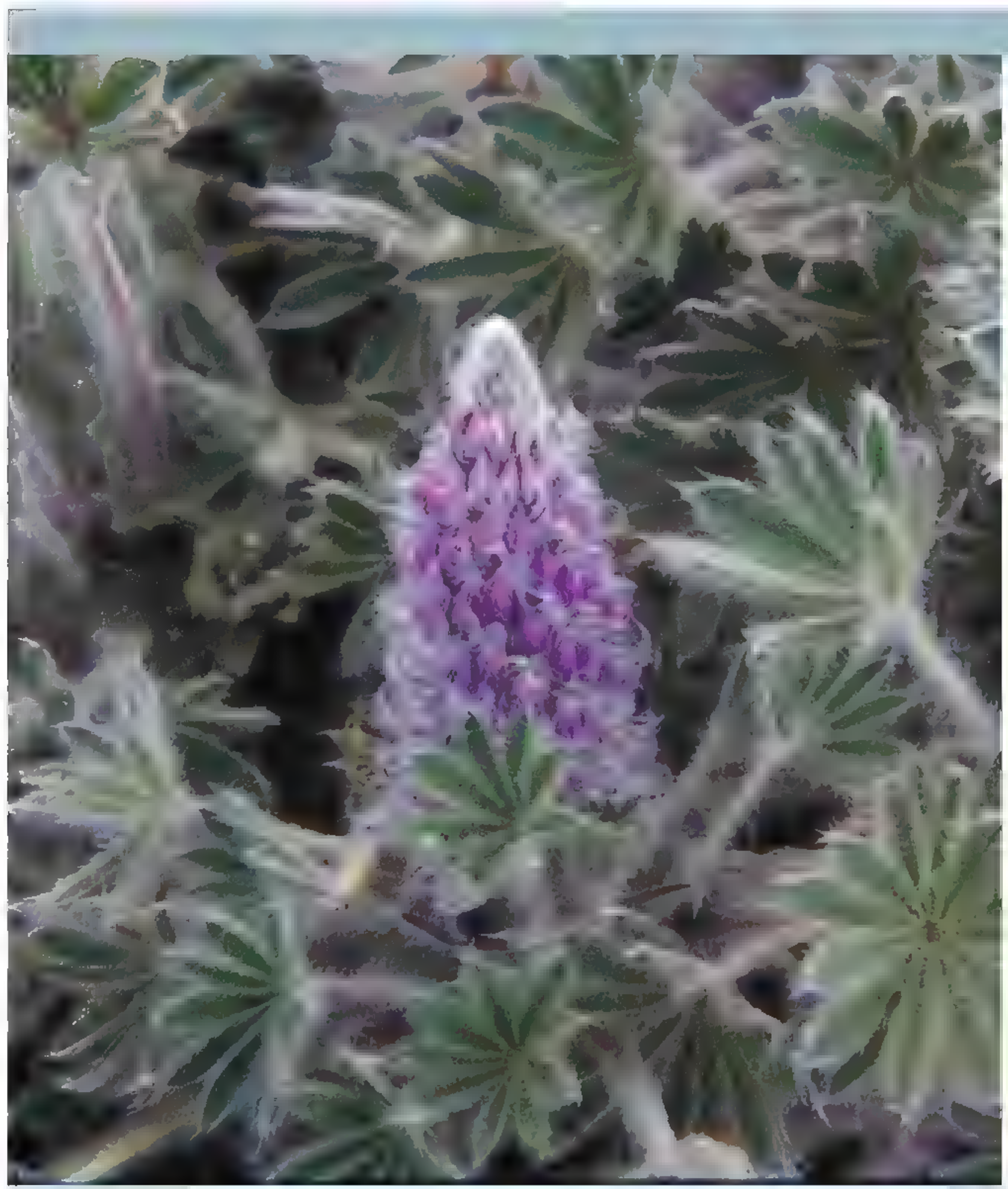
Climate change is of as much concern in Ecuador as in other regions of the world. Garden botanists, with their collaborators in several countries, are monitoring the effects of climate change on plants and seeking ways to help vulnerable plant species survive in the coming decades. In Ecuador, Garden curator David Neill and his Ecuadorian colleagues and students are carrying out research on the response of native plants in the Andes to climate change in several regions of this South American country.

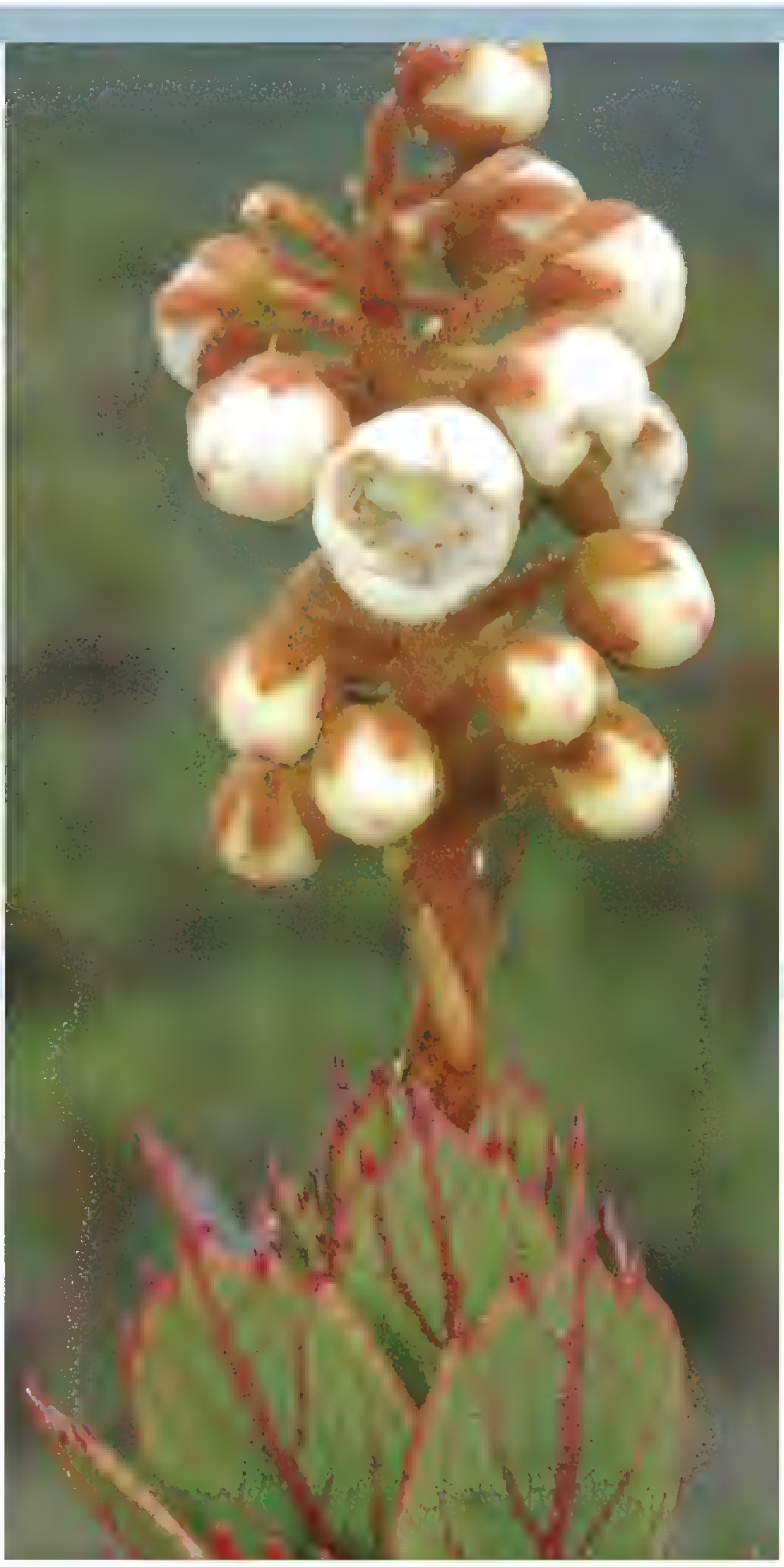
In mountainous regions such as the Andes of Ecuador, many plant species occur in limited geographical areas and in a narrow altitudinal belt on the mountain slopes, and their populations can tolerate only a narrow range of temperature. As the climate warms, these species may migrate up the mountain slopes to cooler areas, but they also may face new competition from other migrating plant species. The researchers in Ecuador use historical plant records, geographical information systems, and field-based studies to monitor plants' responses to changing climates.

In Ecuador, the Andes mountains include several snow-capped volcanoes over 6,000 meters (20,000 feet) in elevation, and the highest plants are found over 4,500 meters (15,000 feet) on the slopes of the volcanoes, below the glaciers. These plants were first studied by the German scientist-explorer Alexander von Humboldt and the French botanist Aimé Bonpland in 1802 during their four-year scientific expedition to South America and Mexico. Humboldt was one of the first scientists to travel with an altimeter, and he carefully recorded the elevations of the plants that he and Bonpland collected.

Among the highest-elevation plants they discovered was a species of lupine, *Lupinus nubigenus*, in the legume family. This species, among other plants on the slopes of the Volcán Antisana, near Ecuador's capital city of Quito, are now being studied by Neill and his Ecuadorian colleagues.

Many of the plant species recorded on the Machinaza Plateau are not found anywhere else.





photos by David Neill

Opposite page: The glacier at the top of the Volcán Antisana is the principal source for Quito's municipal water supply. If the glacier disappears completely, the capital city's water supply will be in jeopardy.

Far left: Lupinus nubigenus *grows at elevations of about 4,500 meters on just three of Ecuador's highest volcanoes. Garden botanists are investigating how populations of this and other high-elevation plants are coping with warming temperatures in recent decades.*

Left: Clethra concordia *is a newly found species unlike any other in the genus Clethra (Clethraceae), most of which are tall trees in the cool cloud forests of tropical mountains of Central and South America. Just 3 feet tall with very small, thick, tough leaves, this spindly shrub has evidently adapted to the highly acidic, nutrient-poor soil of the sandstone Machinaza Plateau.*

Historical records and old photographs show the glaciers on the Andean volcanoes have retreated during the past 200 years as the climate has warmed. Preliminary evidence suggests that the high-elevation plants have also migrated upwards on the volcanic slopes since Humboldt's time, and may continue to do so as the world's climate continues its warming trend. This long-term project will continue to monitor the high Andean plant species with annual censuses during the coming years.

Another area in Ecuador where research on plants and climate change is being carried out is the Cordillera del Cóndor region, in the southeastern part of the country along the border with Peru. The Cordillera del Cóndor is a mountain range east of the Andes composed partly of a series of sandstone plateaus, flat-topped mountains of different sizes and different elevations, rather like the buttes and plateaus of the southwestern United States but with a very wet tropical climate. The highest sandstone plateau in the central part of the Cordillera del Cóndor is the Machinaza Plateau, at 2,400 meters (8,000 feet) elevation. The plateau is covered by dense, shrubby vegetation, and many of the species recorded there in the past several years are new to science and found nowhere else. These species occur only on sandstone, and since the plateau is the only sandstone in the region at that elevation, these endemic species are restricted to a few square miles on the summit of the plateau, right on the Ecuador–Peru border. An example is *Clethra concordia*, a new species whose scientific name is not yet formally published.

As the climate warms, there are no higher-elevation sandstone plateaus in the region where these unique plant species could migrate. Higher sandstone plateaus hundreds of kilometers farther south in Peru potentially could provide a refuge for these species if they can migrate that far. As the climate warms, the plants on the Machinaza Plateau may face competition from other sandstone-restricted plants, including taller trees, that could migrate upwards from lower-elevation sandstone plateaus in the Cordillera del Cóndor region.

If the Machinaza sandstone species cannot survive the higher temperatures and compete with their new neighbors that migrate from lower elevations, and if they cannot migrate to a higher sandstone plateau, they may face extinction over the coming decades. Such a fate may threaten thousands of other plant species around the world, and they may survive only in seed banks and botanical gardens.

Creating Landscapes for Wildlife

Sulphur butterfly on New England aster.

by Cindy Gilberg,
Native Plant Horticulturist,
& Scott Woodbury,
Whitmire Family Curator of
Native Plant Horticulture

Since the beginnings of European settlement, natural landscapes in the United States have been transformed into less diverse landscapes. For instance, there are over 40 million acres of turf in the U.S. That equals the size of Missouri. There are about 350 million acres of crop land, which is four times the size of California, and 790 million acres of range and pasture land, which is about 40 percent of all the land in the lower 48 states. The result is less habitat for birds, butterflies, and other living creatures. There are many ways to improve the situation: convert some pasture and cropland into CRP (conservation reserve program), mow less lawn, and create landscapes that are friendly to wildlife. Whether you live on a quarter acre or 100 acres, no landscape is too small to make a difference in enhancing biodiversity.

Plant diversity is the key to attracting the widest array of wildlife visitors. Landscaping with Missouri native plants helps to restore the habitat necessary to sustain wildlife. Wildlife needs food, water, shelter, and nesting sites.

Food

The majority of animals eat nectar, pollen, seeds, berries, and each other! Bumblebees eat nectar from wild indigo (*Baptisia spp.*) while butterflies prefer milkweed (*Asclepias spp.*). Bees thrive on the flowers of mountain mint (*Pycnanthemum spp.*) and wild hydrangea (*Hydrangea arborescens*), and hummingbirds vie for columbine (*Aquilegia canadensis*) and red buckeye (*Aesculus pavia*) blossoms. Black-eyed Susan (*Rudbeckia spp.*) and coneflowers (*Echinacea spp.*) are favored by seed-eating birds like gold-finches and indigo buntings. Small-flowering trees and shrubs that produce berries include viburnums, dogwoods (*Cornus spp.*), and winterberry holly (*Ilex verticillata*).

Predation can happen in a native garden. You might see crab spiders nabbing bees, wasps paralyzing spiders, praying mantis munching ladybugs, baby birds devouring insects, turtles snapping frogs, and much more.

photo by Bill Hall

Monarch caterpillar on marsh milkweed.

photo by Tom Krouska

Water

Features like birdbaths, garden pools, constructed streams, wetlands, and ponds are wildlife magnets. These are the places where animals drink, bathe, cool down, lay eggs, and prey on others. You may see dragonflies lay their eggs on open water and their offspring eat mosquitoes! Butterflies and bees drink at shallow water edges. Frogs and salamanders lay eggs here. Red-shouldered hawks frequent water and eat crayfish, frogs, and water snakes.

Nesting Sites and Shelter

Birds and insects will nest in the oddest places: garden pots, canoes, and holiday wreaths. But wildlife can be encouraged to nest in gardens by including some of their favorite plants. Grasses and sedges provide building materials for songbirds. Bats take cover in winter beneath the bark of shagbark hickory. Juncos and sparrows tuck themselves between grass plants on the coldest winter days.

When working on a limited budget, consider your garden a work in progress, adding to it over a period of two to three years. Buy smaller plants and take advantage of late-season sales. Gardening friends usually have extra plants to swap. Many people collect seeds and grow their own. The Native Plant School at the Shaw Nature Reserve offers an in-depth class on propagating native plants in late winter (see the Native Plant School schedule at www.shawnature.org).

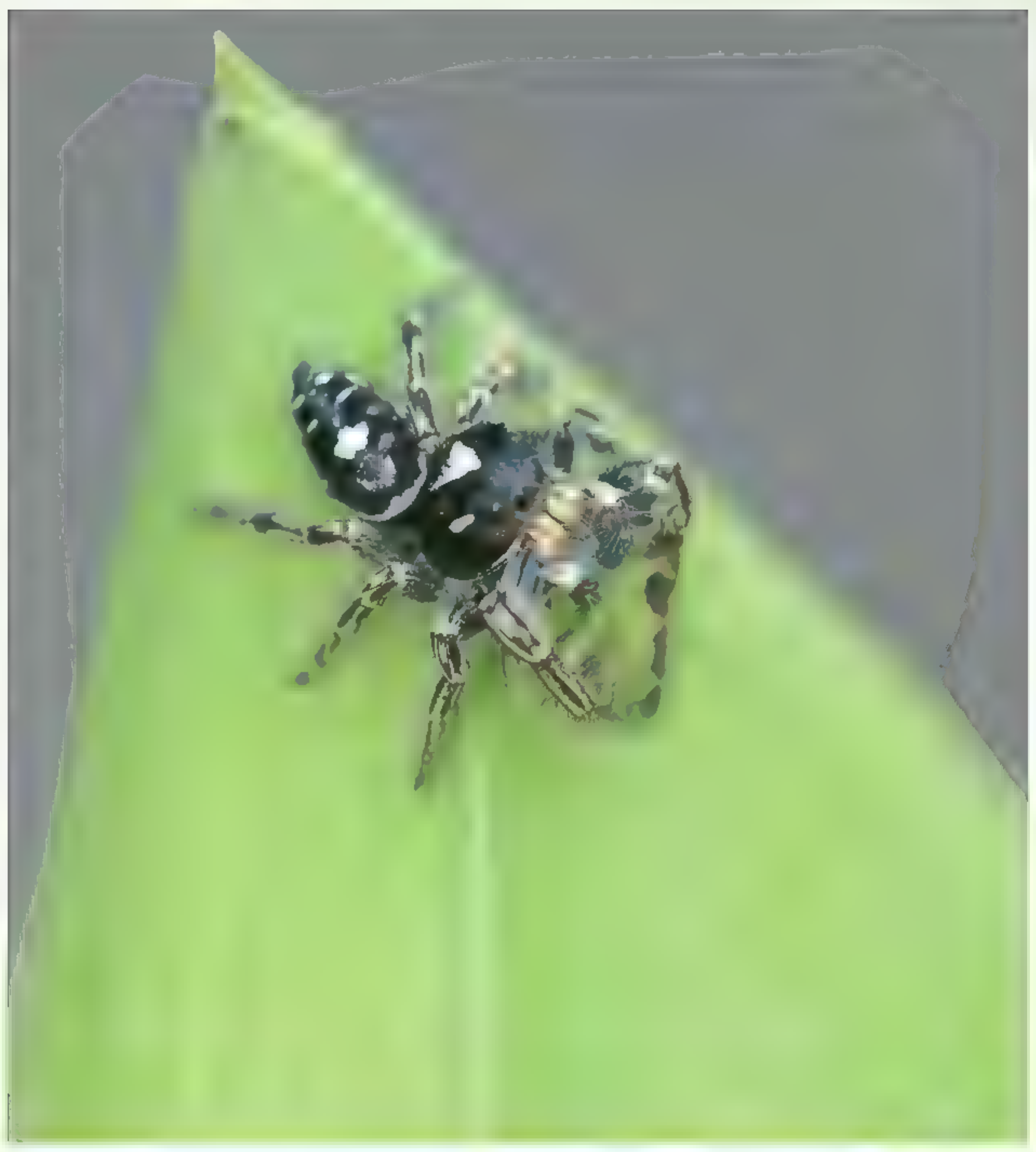


photo by Scott Woodbury

A jumping spider on lotus bud.

Each of us can create small oases in our own yards—natural gardens where we can observe nature on a daily basis. A native plant garden offers the opportunity to rediscover nature up close, reconnecting with the natural world around us. Sit back, grab your binoculars, and enjoy the show!

Native Plants that Attract Wildlife and People

Perennials for sun:
Aster (*Aster aka Symphyotrichum*)
Blazingstar (*Liatris spp.*)
Coneflower (*Echinacea spp.* and *Rudbeckia spp.*)
Mountain mint (*Pycnanthemum spp.*)
Prairie dropseed (*Sporobolus heterolepsis*)

Perennials for shade:
Beebalm (*Monarda bradburniana*)
Columbine (*Aquilegia canadensis*)
Solomon's seal (*Polygonatum commutatum*)
Jacob's ladder (*Polemonium reptans*)
Wild ginger (*Asarum canadense*)

Shrubs and small trees:
Dogwoods (*Cornus spp.*)
Winterberry (*Ilex verticillata*)
Red buckeye (*Aesculus pavia*)
Spicebush (*Lindera benzoin*)
Fragrant sumac (*Rhus aromatica*)
Blackhaw (*Viburnum prunifolium*)

Dave Tylka on "Landscaping for Wildlife and People"

Native Plant School Open Garden Event, Friday, September 4, 4–8 p.m., Shaw Nature Reserve

A former biology professor at St. Louis Community College–Meramec, Dave's gardening experience and extensive knowledge of plants and animals combine to provide a wealth of practical information for creating a wildlife-friendly garden.

The Shaw Nature Reserve's horticulture staff will be in the Whitmire Wildflower Garden to answer questions and discuss gardening with native plants.

The Open Garden and Fall Plant Sale is held annually at the Shaw Nature Reserve. Admission is $5 ($3 for Garden/SNR members) and includes light food. For more information visit www.shawnature.org. Reservations required; call (636) 451-3512 ext. 6075.

WHAT TO DO IN YOUR GARDEN NOW…

clip and save

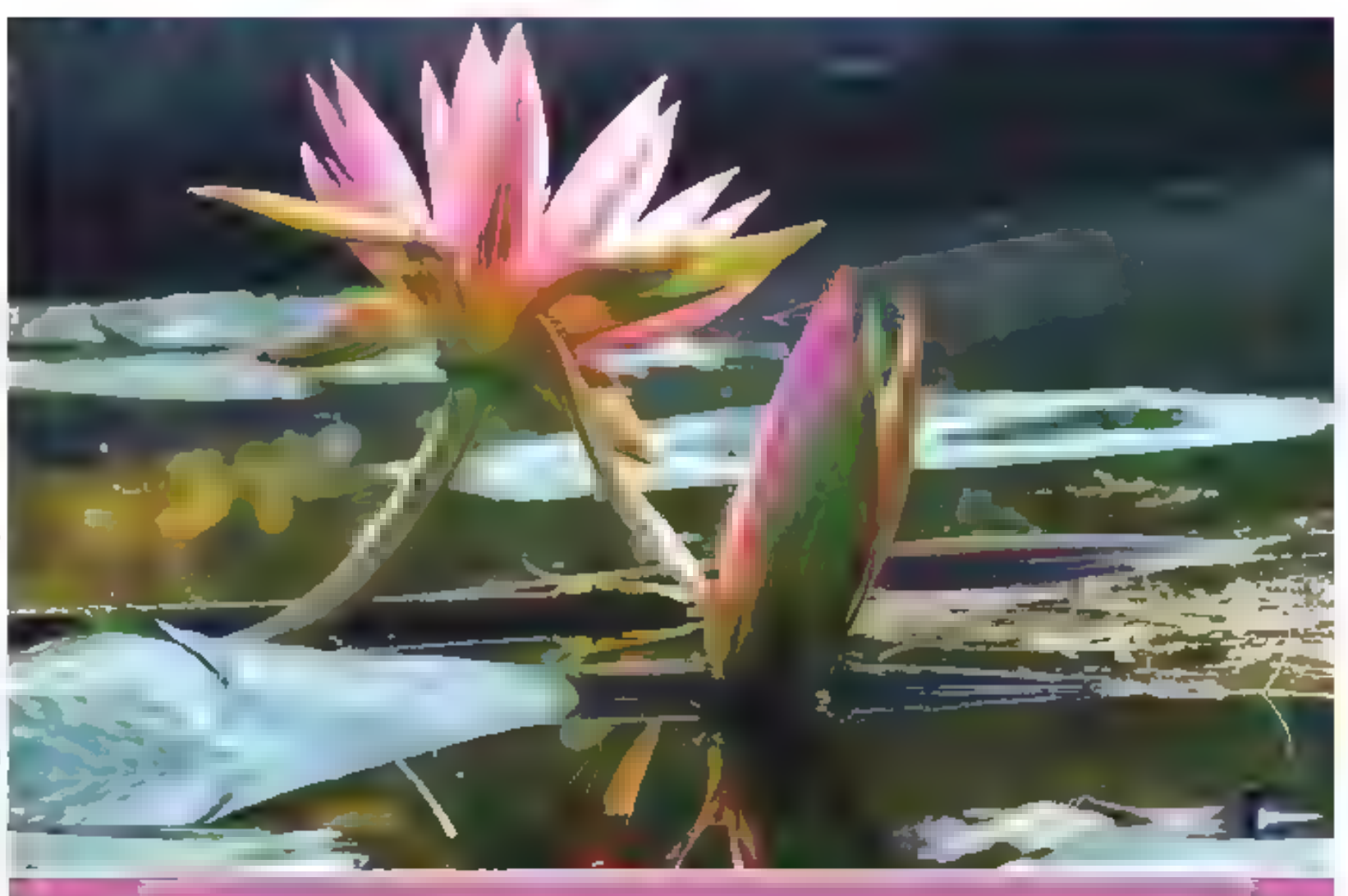


photo by Charles Schmidt

September

all month

- ☐ Begin fall seeding or sodding of cool-season grasses. Seedbeds should be raked, de-thatched or core-aerified, fertilized, and seeded. Keep newly planted lawn areas moist, but not wet. Cool season lawns are best fertilized in fall. Make up to three applications between now and December. Do not exceed rates recommended by fertilizer manufacturer.
- ☐ Autumn is a good time to add manure, compost, or leaf mold to soils for increasing organic matter content.

week 1

- ☐ Cut annuals to provide vigorous plants for overwintering.
- ☐ Dig herbs from the garden and place in pots now for growing indoors this winter.
- ☐ Pick pears before they are fully mature. Store in a cool, dark basement to ripen.
- ☐ Sow seeds of radish, lettuce, spinach, and other greens in a cold frame.

week 2

- ☐ Plant spring bulbs (except tulips) as soon as they are available.
- ☐ Ready houseplants for winter indoors. Prune back rampant growth and protruding roots. Check for pests.
- ☐ Bring plants indoors a month before the heat is turned on.
- ☐ Pinch the top of Brussels sprout plants to plump the developing sprouts.
- ☐ Tie leaves around cauliflower heads when they are about the size of a golf ball.
- ☐ Keep broccoli picked regularly to encourage additional production.
- ☐ Top-dress lawns with compost or milorganite, best after aerifying.

week 3

- ☐ Poinsettias can be forced into bloom for the holidays if they are moved indoors now to a sunny windowsill. Each night, they must be kept in a cool, dark place where there is no light for 14 hours. Continue until proper color is achieved in 6 to 10 weeks.
- ☐ Pinch off any young tomatoes that are too small to ripen to channel energy into ripening the remaining full-size fruits.
- ☐ Newly seeded lawns should not be cut until they are at least 2–3 inches tall.

week 4

- ☐ Divide perennials now. Enrich the soil with compost before replanting.
- ☐ Divide peonies now. Replant shallowly in a sunny site.
- ☐ Lift gladiolus when their leaves yellow. Cure in an airy place until dry before husking.
- ☐ Check along peach tree trunks to just below the soil line for gummy masses caused by borers. Probe holes with thin wires to puncture borers.
- ☐ Sow spinach now to overwinter under mulch for spring harvest.

photo by Lauren Kirkwood

October

all month

- ☐ Plant spring bulbs among hostas, ferns, daylilies, or ground covers. As these plants grow they will hide the dying bulb foliage.
- ☐ Store apples in a cool basement in old plastic sacks that have been perforated for good circulation.
- ☐ Sow cover crops such as winter rye after crops are harvested.

week 1

- ☐ Christmas cactus, potted azaleas, and kalanchoe may be left outdoors until night temperatures drop to 40° F.
- ☐ Continue harvesting tender crops such as winter squash and pumpkins before frost. For best storage quality, leave an inch or two of stem on each fruit. Dig sweet potatoes before a bad freeze.
- ☐ Gourds should be harvested when their shells become hard or when their color changes from green to brown.
- ☐ Cover tender plants with sheets or lightweight fabric covers to protect from frost.

week 2

- ☐ Cannas and dahlias can be dug when frost nips their foliage. Allow the plants to dry under cover in an airy, frost-free place before storage.

week 3

- ☐ Transplant deciduous trees once they have dropped their leaves.
- ☐ Monitor fruit plantings for mouse activity and take steps for their control if present.
- ☐ Continue mowing lawns until growth stops. Keep leaves raked off lawns to prevent smothering grass. Now is a good time to apply lime if soil tests indicate.

week 4

- ☐ Plant tulips now.
- ☐ Trees may be fertilized now, following soil test guidelines.
- ☐ Place wire guards around trunks of young fruit trees for protection against mice and rabbits.
- ☐ Winterize mowers before storage.

Member Plant Societies

Plant societies are the place to profess your horticultural devotion. Groups exist for fans of flowers from African violets to roses, and for specific garden types such as rock or water gardens. For the latest contact information on the Garden's plant society partners, visit www.mobot.org/plantsocieties.

For additional information on plant care and gardening:

- *visit the William T. Kemper Center for Home Gardening.*
- *call the Horticultural Answer Service, Monday through Friday, 9 a.m. to noon, at (314) 577-5143.*
- *check out the Gardening section at www.mobot.org.*

photo by Lauren Kirkwood

November

all month

- ☐ Prevent insects or diseases from overwintering by removing and composting all plant debris. Till under any unused, finished compost to expose insect pests to cold.
- ☐ Now is the ideal time to plant trees and shrubs. Loosen the soil in an area five times the diameter of the root ball before planting. Mulch well after watering.
- ☐ Collect soil samples to test for pH and nutritional levels.
- ☐ Keep leaves raked up off of the lawn to prevent injury. A final fall application of fertilizer can be applied to bluegrass and fescue lawns.

week 1

- ☐ Plant tulips now.

week 2

- ☐ Newly planted broadleaf evergreens such as azaleas, boxwood, and hollies benefit from a burlap screen for winter wind protection. Set screen stakes in place before the ground freezes.
- ☐ Shut off and drain any outdoor water pipes, hoses, or irrigation systems that may freeze during cold weather.
- ☐ Set up bird feeders. Birds appreciate a source of unfrozen drinking water during the winter.

week 3

- ☐ Just before the ground freezes, bury root crops (carrots, radishes, turnips, and Jerusalem artichokes) under a deep layer of leaves or straw. Harvest as needed during winter by pulling back this protective mulch.
- ☐ Mulch strawberries for winter with straw. Apply straw loosely, but thick enough to hide plants from view.
- ☐ House plant basics for winter: reduce or eliminate fertilizer until spring. Shorter days mean slower growth. Slower growth means less frequent watering. Plants in plastic pots need less water than those in clay pots. Plants in cooler rooms need less water and grow slower than those in warm rooms.

week 4

- ☐ Cover garden pools with netting to prevent leaves from fouling the water. Oxygen depletion from rotting organic matter can kill pond fish. Take steps to prevent garden pools from freezing solid in winter. Covering pools with an insulating material, or floating a stock tank water heater in the pond, will lessen the chance of ice damage.
- ☐ Roses should be winterized after a heavy frost. Place a 6–10 inch deep layer of mulch or topsoil over each plant. Prune sparingly, just enough to shorten overly long canes. Climbers should not be pruned at this time.
- ☐ To prevent injury from frost, mulch flower and bulb beds after the ground freezes.

photo by Chris Starbuck

Featured Plant of Merit®

Sweet pepperbush

Clethra alnifolia 'Ruby Spice'

This densely branched, deciduous shrub typically grows 4–6 feet tall and features narrow, bottlebrush-like clusters of extremely fragrant, rose pink flowers. This summersweet cultivar is noted for its ability to bloom in shady locations. Easily grown in average, medium to wet soils in full sun to part shade, it also tolerates clay soils and full shade. In the fall, its dark green leaves turn an attractive yellow/golden brown.

Plants of Merit® is a program of the Missouri Botanical Garden. Plants are selected by regional horticulture experts for outstanding qualities and dependable performance in the lower Midwest. View all current selections at www.plantsofmerit.org.

Double Your Money

Throughout 2009, the William T. Kemper Foundation—Commerce Bank, Trustee will match your donations to the Plants of Merit program, dollar for dollar up to $50,000. To participate, please contact the Institutional Advancement Office at (314) 577-9513.

Plastic Pot Recycling

Now through September

Close the gardening loop! Recycle plastic garden pots, cell packs, and trays. Plastic should be empty of soil with no metal hangers or rings (no clay pots or food plastic). Please separate #6 plastic cell packs and trays from #2 and #5 plastic pots into the recycling trailers. Drop off materials in the west parking lot of the Garden's Monsanto Center, 4500 Shaw Blvd. at Vandeventer. For a complete list of satellite collection centers throughout the metro area, visit www.plasticpotrecycling.org.

Sacred Lotuses of Ancient Egypt

Water lilies revered in antiquity now in bloom

Nymphaea caerulea

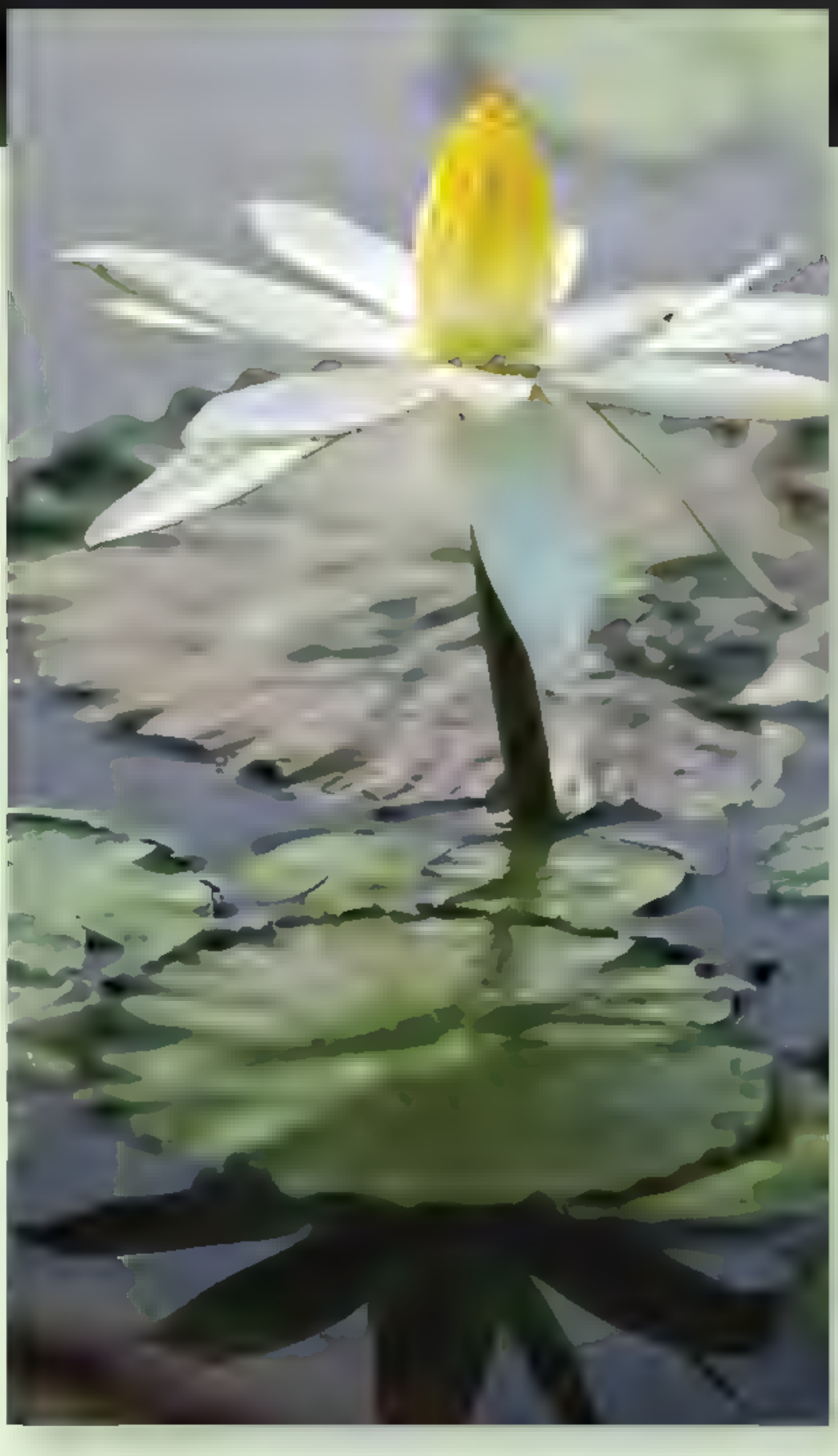


photo by Paul Straatmann

Nymphaea lotus

A lotus by any other name is definitely not the same. In addition to the Garden's displays of sacred lotuses in the Japanese Garden, you'll find their namesakes now in the lily pools of the Central Axis and Swift Family Garden.

They may go by the names lotus of the Nile and Egyptian lotus, but *Nymphaea caerulea* and *Nymphaea lotus* are actually members of the water lily family. As their common names suggest, these flowers are native to Egypt as well as central and west Africa, Madagascar, and Hungary. Steeped in symbolism by the ancient Egyptians, they were considered sacred, and archeological evidence points to their importance in religious ceremonies and funerals.

Nymphaea lotus is also known as Egyptian white water lily or Egyptian lotus. With pure white petals and bright yellow centers, it opens at dusk and remains open during the night until midday. Because of its pattern of opening and closing, ancient Egyptians took it to be symbolic of creation and resurrection. Depicted in everything from monuments and murals to furniture, *Nymphaea lotus* was used in countless rituals including religious festivals and funerals. Archeologists found remains of the flower in the tomb of the pharaoh Ramesses II in 1881.

Nymphaea caerulea, also known as the lotus of the Nile, was considered symbolic of the sun and rebirth. The flower begins to open in the morning revealing its intense blue petals and golden center while giving off a scent similar to hyacinth or lilac. Then, in the afternoon, it closes its petals for the night.

Because it was thought to be sacred, it too was used during celebrations and funerals. Remains of the petals were found scattered over Tutankhamen's body when it was discovered in 1922.

Egyptians believed the scent of the flower not only pleased the senses, but also held healing powers. The flower of *Nymphaea caerulea* was used to promote health and continues to be used as a tonic for overall good health. Some studies indicate it may also have mild psychoactive properties.

Nymphaea caerulea and *Nymphaea lotus* are not directly related to the sacred lotus of Asia, which is on display in the Chinese and Japanese Gardens and was named later because its flowers resembled those of the Egyptian lotus.

Look for these water lilies to be at their peak through early September.

Where the *Really* Green Grass Grows

Creating a Sustainable Lawn

by Dr. Steven Cline, Kemper Center for Home Gardening Manager

Simply put, a sustainable lawn is one that serves its purpose as a ground cover for recreation and aesthetics and performs with minimal care, cost, and energy input. On a scale of one to 10 for effort to produce what you want, it should be a three. Are lawns really sustainable, you ask—all that water, fertilizer, crabgrass control, mowing, dethatching? How can we get what we want in this climate and spend less time, energy, and money to have a nice lawn?

There are 30 million acres of home lawns in the U.S. For every acre, we spend about $500 and 40 hours mowing each year. Lawns offer many benefits—cooling, athletics, erosion control, and beauty. On the other hand, 17 million gallons of gas are spilled just in the filling of lawn mowers each year and $30 billion is spent on maintenance—mowing, fertilizing, watering, pest and weed control. So, what approach can we take to minimize the negative impact of lawns and promote the positive?

photo by Paul Straatmann

photo by Paul Straatmann

1. Minimize the size of the lawn by taking some out. Put in shrubs, perennials, non-invasive ground covers, and native plants.

2. Select the right grass including tall fescue or zoysia grass for full sun to medium light. Combine with red fescue, and hard fescues for more shade. Mix 3 to 5 varieties for disease control.

3. Mow tall with a mulching mower and let clippings fall back into the lawn. Tall mowing (3 to 4 inches—highest setting during summer) minimizes weeds, promotes drought tolerance, and reduces stress due to weather changes.

4. Test the soil before you fertilize. Improper soil pH, nutrient deficiencies, and poor soil structure waste your fertilizer and cause you to spend time starting over, reseeding. One factor out of line means you're working uphill and will cost you more over time.

5. Put up with a few weeds and identify what you have. Learn which ones are really bad and which ones will come and go no matter what. Forgo perfection. Spot treatments are best, if necessary.

6. Core-aerate and reseed in the first two weeks of September. This is the best time for lawn seeding with cooler night temperatures. Light sprinkles several times per day over three weeks will get it going. Good seed-to-soil contact is critical and alleviates compaction.

7. Water in the morning deeply and infrequently, so you get one inch on, once per week during drought. Correct any drainage issues or you will never win.

8. Minimize pest control by diagnosing the problems accurately with expert help. Insects come and go. Don't spread insecticide unless you can prove insects are the issue. Disease has to be monitored. Moles eat more earthworms than grubs and can be trapped.

9. Dogs and lawns don't mix well. Create pathways with mulch where they habitually run. Don't expect to grow lawns in these areas.

10. Get a battery-operated lawn mower. The higher voltage units (36V) work for lawns that are around 10,000 square feet. This fits many home lawn sizes and uses less energy, creates less pollution, and is quieter.

photo by Josh Monken

"Field lab" programs at Litzsinger Road Ecology Center integrate students' work at the Center with what they are doing at school and in the community.

Litzsinger Road Ecology Center—A Small Site with a Big Footprint

by Bob Coulter, Director, Litzsinger Road Ecology Center

While kids can't save the rainforest alone, they can be the ecological guardians of their own schoolyard or local park. By promoting sustainability on a scale that works for kids, the Litzsinger Road Ecology Center (LREC) is helping advance the Garden's mission with schools in the St. Louis region and beyond.

In place of traditional field trips, LREC's "field lab" programs work intensively with local schools to integrate students' work at the Center with what they are doing at school and in the community. Projects such as replacing invasive plants with native species, or stabilizing a stream bank with vegetation, set the next generation on a course toward sustainability. Complementing these efforts, teacher workshops build skills in creating sustainable schoolyards and in using geographic information system (GIS) tools to illuminate local issues. Taken together, these programs emphasize place-based education, a strategy fostering teachers' and students' commitment to their local community as the focus for their learning.

An exciting new focus for LREC is leveraging the power of computer games to help students develop an interest in science. Working in collaboration with the Massachusetts Institute of Technology, staff members are working with schools locally and in the Boston area in the use of handheld computers equipped with Global Positioning System (GPS) receivers. Imagine solving an environmental mystery in your local park, guided by the handheld computer to collect relevant clues that you will analyze with your classmates. Even better, students in after-school and summer programs are learning to design their own games for their peers to play.

Complementing these educational efforts, LREC maintains an active ecological research and restoration program on its 34-acre site. The Center has ongoing projects managing invasive species, planting native ones, and promoting ecological stewardship in the community. Through staff research and a mini-grant program for scientists, we are developing and disseminating best practices for ecological health. Closing the circle, many of the on-site projects undertaken by students in the field labs are informed by—and often extend—the Center's research and restoration efforts.

Please note that the Litzsinger Road Ecology Center is a private research facility managed by the Garden for the past 15 years. Site use restrictions imposed by the City of Ladue limit participation to pre-arranged programs. The Center is not open for public visits.

VOLUNTEERS SOUGHT

If you enjoy working with children and spending time outdoors, the Litzsinger Road Ecology Center is seeking Volunteer Educators for the upcoming school year. Free training begins on Monday, Sept. 14 from 9 a.m. to 3 p.m. and continues for ten consecutive Mondays through Nov. 16. Volunteers will become familiar with the site; learn inquiry-based, outdoor teaching strategies; and gain an understanding of basic ecology. For more information, call Jackie Juras, manager of volunteer programs, at (314) 577-5187 or visit www.litzsinger.org.

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3617 Grandel Square, St. Louis, MO 63108
phone (314) 577-0220 • www.earthwayscenter.org

Learn Green – Live Green

photos by Hope Breidenbach

Above left: More than 70 exhibitors will be on hand. Above right: Artists of all ages can help transform a bus into a moving mural.

New! Sustainable Stuff—The Green Craft Fair

Local artisans skilled in crafting with reused and recycled media will sell their resourceful wares in this new Green Homes Festival feature. Enjoy live acoustic music as you browse the one-of-a-kind fashions, household goods, and gifts displayed in the Cardinal Ritter College Prep High School commons. This is shopping with conscience and flair!

Save money, live healthier, protect the planet—and have fun at the 8th annual Green Homes Festival!

This resource-packed street fair celebrates the many ways to live well by living lightly on our fragile Earth.

You can meet and ask questions with over 70 exhibitors who are experts in:

- Solar and wind power
- Green home improvement and homebuilding
- Non-toxic home maintenance
- Reducing, reusing, recycling, and composting
- Transportation alternatives

For festival kids, the popular Solar Car Races will return, along with artful trash-to-treasure activities. All ages can pick up a paintbrush with Sarah Linquist, Master Scenic Artist for The Muny, and help transform a Metro bus into a traveling environmental mural. Adults can enjoy Schlafly beer and all ages will like the tasty, healthy treats in the shade of the Local Food Court.

A roster of 28 "Learn Green—Live Green" practical workshops, held at neighboring Cardinal Ritter College Prep High School, will cover topics from renewable home energy systems to urban farming. Last year's top workshop topics will be offered twice, including raising backyard chickens.

The Green Homes Festival is brought to you by the Missouri Botanical Garden's EarthWays Center and the Missouri Coalition for the Environment, and presented by AmerenUE and ecolifeSTL.com.

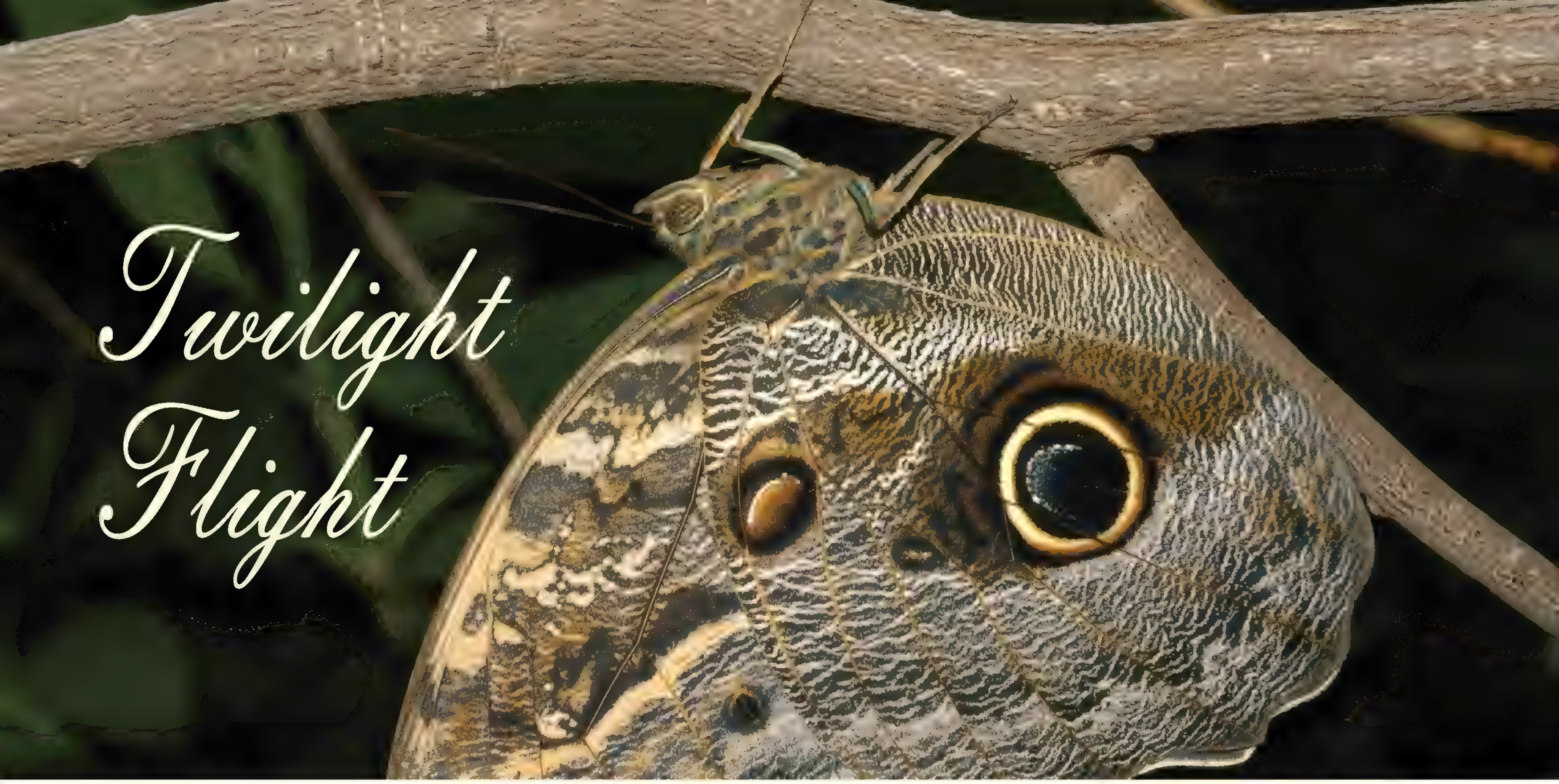
"Our festival partnership is a positive and powerful way to raise community-wide awareness of the kinds of sustainable choices that both our organizations promote," says the Coalition's Erin Noble, who coordinates the event with the EarthWays team.

"Every year we add new exhibits, new topics—and we reach a broader audience," adds Glenda Abney, director of the EarthWays Center. "This festival showcases the tremendous array of practical and sustainable options for home, lifestyle, and business that are thriving in our region."

The Green Homes Festival fills the 3600 block of Grandel Square, between Grand and Spring, in mid-town St. Louis. While you're in the neighborhood, don't miss "Dancing in the Street," Grand Center's fabulous free fall performing arts street fair, from 1 to 9 p.m.

Festival admission and parking are free. A $10 wristband will admit visitors to any combination of workshops ($5 for single workshop admission). For a complete festival schedule and other details, visit www.greenhomesSTL.org.

Twilight Flight



*An owl butterfly (*Caligo memnon*).*

by Mark Deering, Collections Manager

While most butterflies are diurnal, meaning they fly during the day, a few fly at twilight, or dawn and dusk. These twilight animals are called *crepuscular*. At the Sophia M. Sachs Butterfly House, one group of butterflies exhibits this interesting behavior—the owl butterflies.

Owl butterflies are the largest in the Tropical Conservatory, but many people are never able to observe them flying and displaying both sides of their wings. Owls create a spectacular display as groups of ten or more tumble along in flight. Other crepuscular animals include mosquitoes, some moths, fireflies, and other insects, as well as vertebrate species like bats and whippoorwills. Many fly throughout the night, but they all begin at dusk. Being crepuscular allows these animals to avoid some of the predators that hunt during the day, including most birds, some spiders, and many lizards.

Day visitors to the Butterfly House can see the owl butterflies as they rest on tree trunks, displaying the classic eyespot on the undersurface that gives them their name. They are also common sights on the fruit trays, as they will not visit flowers for nectar. Owls live in the understory of tropical forests, and fruit is a main source of food, along with tree sap, dung, and carrion.

The Butterfly House receives three species of owl butterflies: *Caligo memnon*, *Caligo eurilochus*, and *Caligo atreus*. All three are found in Costa Rica.

Owl Outings

Want to see the owl butterflies in flight? Don't miss Owl Outings this October. Pre-registered guests will tour the Tropical Conservatory at twilight and witness firsthand the owls' unique behaviors. Included in this visit is a guided tour and fun activities for ages 6 and over. For more information, including schedule, activities, and cost, visit www.butterflyhouse.org or call (636) 733-2339 to schedule your twilight experience. Also, don't miss Bootterflies, our child-friendly Halloween event on October 24–25, with lots of not-so-creepy-crawly, fun activities.

Butterfly House

15193 Olive Blvd., Chesterfield, MO 63017
(636) 530-0076 • www.butterflyhouse.org

Visit the Monarchs' Winter Home

The Butterfly House is pleased to offer a trip to Mexico from February 19–23, 2010, to visit the monarch butterfly overwintering site. This trip is being conducted in cooperation with Expedition Travel and the Florida Museum of Natural History. Travelers will visit both the El Rosario and the Sierra Chincua monarch sites and enjoy evening presentations by monarch expert Dr. Tom Emmel.

For more information and to download a brochure, visit the Butterfly House website at www.butterflyhouse.org, or contact Joe Norton, Butterfly House director, at (636) 530-0076 ext. 11.

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Oh, Dear!

Deer Resistant Landscaping with Native Plants

photo by Scott Woodbury

*Hungry deer will eat almost anything, so finding deer-resistant plants can be frustrating. Squaw weed (*Senecio obovatus*) is a ground cover that can help repel deer.*

by Cindy Gilberg, Native Plant Horticulturist

For those of us who live in deer country, gardening can be an exercise in futility. Deer are adaptable. Gardeners soon discover that browsing deer can do a large amount of damage in a short amount of time. As a result, deer control and the discovery of browse-resistant plants are on the mind of those of us who face this challenge.

Absolutely don't feed the deer (corn, sorghum, etc.), as this is an invitation for them to stick around and see what else is on your "buffet table." Repellents are useful, but require several applications. Fences over 9 feet tall work well, especially for protecting vegetable gardens, but can be expensive for enclosing larger areas. Deer are primarily nocturnal, though many of our suburban deer populations are active during the day. Most are unafraid of human activity or even dogs.

The search for deer-resistant plants may be frustrating. Hungry deer will eat most anything, and their favorite native plants include asters, phlox, and lilies. The good news is that there seem to be many native plants that deer tend to avoid.

Deer rely on their sense of smell to determine whether an area is safe and which plants are desirable to eat. So it makes sense that plants with aromatic foliage, such as wild bergamot (*Monarda fistulosa*), deter deer. Other plants are distasteful or poisonous, such as the ground cover squaw weed (*Senecio obovatus*). Plants such as rattlesnake master (*Eryngium yuccifolium*) and prickly pear cactus (*Opuntia humifusa*) repel deer because of their texture—coarse, rough, hairy, or spiny. A deer-resistant garden has a high percentage of these types of plants mixed in so that deer are confused and move on. By using a combination of deer-resistant plantings and repellents, you can achieve a more peaceful coexistence with deer.

To receive a copy of the full list of deer-resistant native plants please attend the November 12 Native Plant School Class: Deer-resistant Native Landscaping. Reservations required; call (636) 451-3512 ext. 6075.

photo by Mark Deering

Back to Class: Native Plant School Schedule

2009

Sept. 4	Open Garden and Fall Plant Sale, 4 to 8 p.m.
Sept. 10	Prairie and Savanna Reconstruction Pt. 2
Oct. 8	Native Perennials and Grasses for Landscaping
Nov. 12	Deer-resistant Native Landscaping

2010

Jan. 14	Native Small-flowering Trees and Shrubs Pt. 1
Feb. 11	Native Landscaping Pt. 1, Planning and Design
Mar. 11	Native Plant Propagation
Apr. 8	Native Landscaping Pt. 2, Planting and Maintenance
Apr. 15	Native Small-flowering Trees and Shrubs Pt. 2
May 13	Pond and Lake Landscaping
June 10	Rain Gardening
July 8	Wildlife Gardening: Predation, Pollination, and Reproduction
Aug. 12	Prairie and Savanna Reconstruction Pt. 1, Site Prep & Seed Collecting
Sept. 9	Prairie and Savanna Reconstruction Pt. 2, Seeding and Maintenance
Oct. 14	Native Small-flowering Trees and Shrubs Pt. 3
Nov. 11	Natural Looking Paths and Patios with Stone and Concrete

Classes are from 1 to 4 p.m. Fee: $12 ($8 for Garden/SNR members). Reservations are required; call (636) 451-3512.

Tributes

April through June 2009

A tribute gift to the Garden is a wonderful way to honor family and friends. Tributes of $25 and up are listed in the *Bulletin*. If you have questions regarding giving opportunities at the Garden, please call (314) 577-5118. You can also make a tribute gift online at our website, www.mobot.org.

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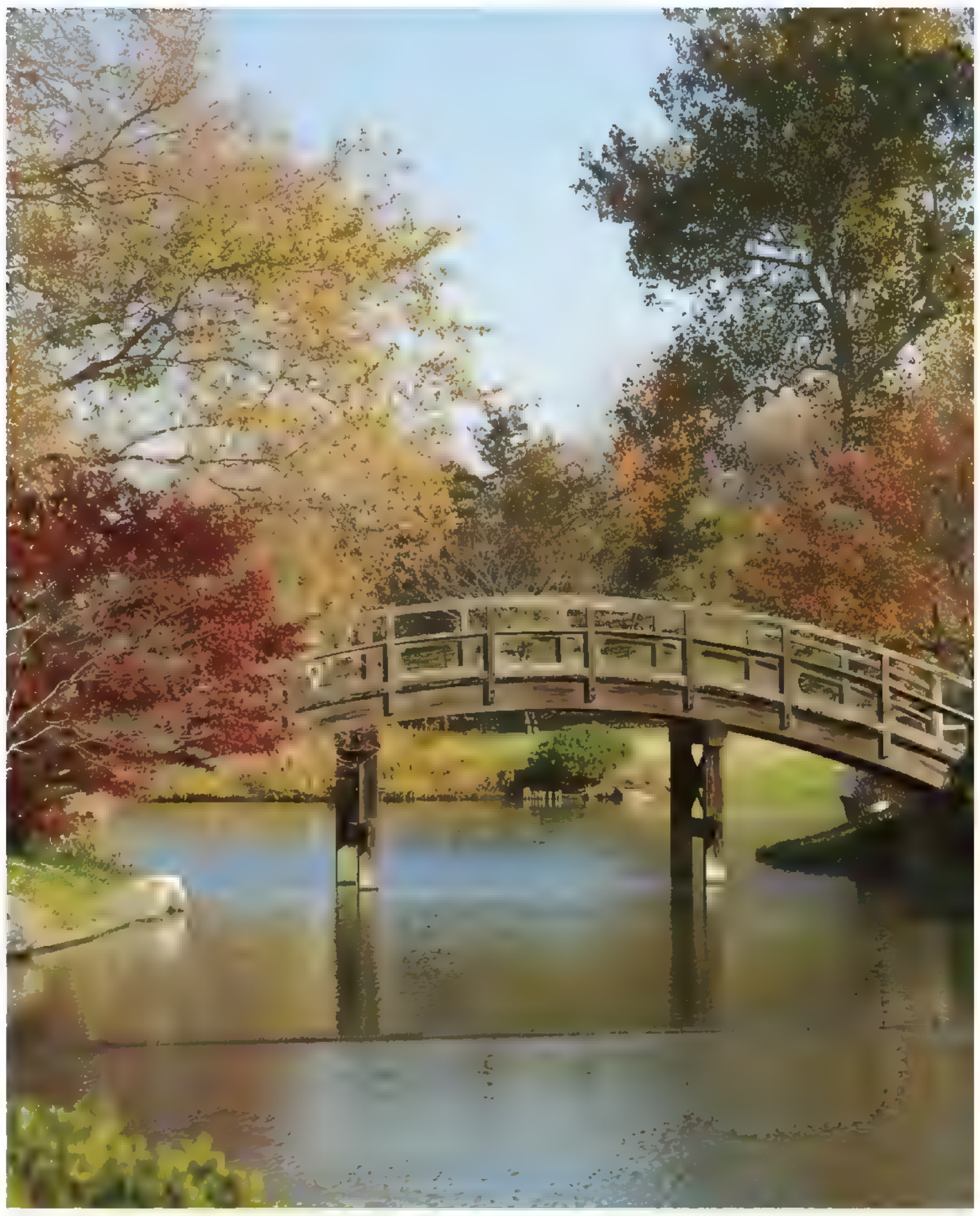
photo by Josh Monken

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Leaving a bequest to the Garden creates a legacy that will benefit others for generations to come. If you have already included the Garden in your estate plans, we hope that you will share this information with us. We would like to express our gratitude and welcome you into the Heritage Society. Of course, your wishes for anonymity are respected. Please call (314) 577-9495 for further information, or visit our website at www.mobot.org. Click on Donate, then Planned Giving.

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Dr. and Mrs. Morton Stanley

Ruth White
Ms. Kim Cleary

Mrs. Betty Jane Williams
Mrs. Nancy O. Whitelaw

Mrs. Mary M. Wind
Mr. and Mrs. Robert E. Barrett
Mr. Michael J. Fabian and Ms. Vicki Kiehl
Ms. Arlene Hyde
Mrs. Carmella A. Jerden
Dr. and Mrs. John J. Kelly, Jr.
Mrs. Merle E. Kind
Mr. and Mrs. Orval D. Nelson
Mr. Eric J. Piper
Mr. and Mrs. Frederick A. Rand
Mrs. Jacqueline M. Thompson
Mr. and Mrs. Gilbert Wessel
Mr. and Mrs. Donald R. Wind

Mr. Harry E. Wuertenbaecher, Jr.
Mr. and Mrs. Robert H. Harper
Mr. William R. Piper
Mr. and Mrs. Alvin L. Siwak

Dr. Allan Zacher
Mr. and Mrs. John Zacher

Mr. Samuel Zibit
Fitch Ratings Family of Trudy Zibit
Mr. and Mrs. Phillip Michaels
Dr. and Mrs. Jack Rosen

Mr. and Mrs. Dave Zukosky's loved ones
Ms. Nancy S. Swoboda

Members' Entry Court

Bricks dedicated at the Garden, April through June 2009.

Engraved clay bricks and signature bronze bricks are a wonderful way to commemorate any special occasion, as well as final memorials. For additional information regarding the Garden's brick program, please contact the Institutional Advancement Office at (314) 577-0291 or visit www.mobot.org.

Carol Sue Schultz

JEANNINE
BIEGER

photo by Paul Straatmann

Signature Bronze Bricks

Laris Arora
Heather Arora and Dan Eckert

Pravin Arora
Heather Arora and Dan Eckert
Heather and Seth Barker
Susan Bertelsmeyer
Kelly and Ben Bohling
Michelle Bokermann
Carrie and Michael Boland
Suzanne and Ryan Brueckmann
Laura and Brian Cockrill
Kim and Grant Christianson
Laura Crandall and Erin Friedman
Jen and Brian Graham
Katie and Storm Huse
Kristen and Andy Miedler
Carol and Jim Nacke
Kelley and Chris Nelson
Kristin and Dave Solovitz
Laura and Matt Strickland
Sarah and Nick Tiburzi
Brad Wilson

Engraved Clay Bricks

Kathy Duff
Ms. Mary Mosblech
Ms. Rita Mosblech

Laurie Flassig
Founder's Mortgage LLC

Geoffrey and Sylvia Halley
Mr. and Mrs. Ian A. Halley

Patricia Marie Harris
All your friends from North St. Louis

Lawrence and Daisy Jones
Drs. Lawrence and Daisy Jones

Joe and Cathy O'Brien
Mrs. Cathy O'Brien

Patricia Ann Schepp
Mrs. Shannon Bard

Ceil Schuyler
Dr. and Mrs. Michael L. Finkel

Warren and Shirley Siems
Mr. and Mrs. Ronald E. Rauh

Ted and Gerri Stalzer
Mr. Theodore R. Stalzer

Jaden Stricker
Mr. and Mrs. Tad Stricker

Joseph H. Weis
Mr. Charles Stafford

Jim and Pat Wilds
Mr. and Mrs. Barry R. Eikmann

photo by Kevin Wolf

Sophia M. Sachs Butterfly House Tributes & Pavers

To learn more about these opportunities, call (314) 577-0291 or visit www.butterflyhouse.org.

Tributes and Pavers dedicated at the Sophia M. Sachs Butterfly House, April through June 2009.

Tributes

In Honor of

Ms. Charzel F. Davis
Mrs. Nancy Senter and Ms. Ruth Lacy

Ms. Joanne Parrott
Dr. and Mrs. George D. Selfridge

In Memory of

Mrs. Betty Steffen Manlin
Mr. and Mrs. Bruce A. Cramer
Ms. Jackie Juras
Mrs. Jean Racowsky

Cheryl Bozeman Riegelsberger
Tracy Alferman
Ms. Pat Anslinger
Mr. and Mrs. George M. Davis
Mrs. Michelle Green
Sandy and Kerry Kohring
Mr. and Mrs. Don A. Schwaab

Mrs. Betty Short
Ms. Cheryl L. Davis and Mr. Denny Seamans
Mr. and Mrs. John N. Schneider

Dr. Jules M. Snitzer
Mr. and Mrs. David P. Brown
Mrs. Juanita Jahn
Ms. Joanne Parrott

Pavers

Melaina Cunningham
Mr. and Mrs. Jeff Cunningham

Caroli and Joe Fresta
Mr. and Mrs. Joseph A. Fresta

Louis Glazer
Robin Walpert
Jill and Brad Winters

Emily Guempel
The Chadwick Family

Eileen Mary Herman
Mr. and Mrs. Stanley H. Herman

Camille D. Julig
Mr. and Mrs. Stanley H. Herman

Dick Mosley
Ballwin Curves Staff and Members

Margaret Olivia Murphy
Mr. and Mrs. Charles J. Session, Sr.

Eleanor Nikonowicz
Mr. and Mrs. Paul D. Hunsicker

Dr. Jules M. Snitzer
The Kirkwood Office

Taylor, Emma, Garrett, and Will
Ms. Francine M. Balk

Benjamin Ward
Progress West Women's Services

Bill and Bea Wesche
Mr. and Mrs. Philip J. Strasser

For every pair you purchase,
will give a pair of shoes to a child in need.
TOMS One for One.

TOMS

One for One

Style Your Sole!

Saturday, October 24, 1–5 p.m., Spoehrer Plaza
Join the Garden Gate Shop for St. Louis's first TOMS Style Your Sole Party! Start with a solid pair of TOMS and use markers, pens, stencils, or even paint to personalize your shoes. Style them yourself or let our artists customize for you!

Order in advance from August 24 through October 5 to make sure you get the style, size, and color you want. Stop by the shop or visit www.gardengateshop.org to view styles and call (314) 577-0865 to order.

- TOMS representatives
- Chalk artists
- Balloon artists
- Cash bar

Join the fun! Make a difference!

TOMS Shoes was founded on a simple premise: For every pair you purchase, TOMS will give a pair of new shoes to a child in need. One for One.

GARDEN
GATE SHOP.ORG

All proceeds benefit the Missouri Botanical Garden.

September Events

Visit www.mobot.org for the latest information.

photo by Heather Marie Osborn

Japanese Festival

Saturday–Sunday, September 5–6, 10 a.m. to 8 p.m.; ☺
Monday, September 7 (Labor Day), 10 a.m. to 5 p.m.

East meets Midwest at the Garden's celebration of Japanese culture, art, and cuisine. Experience the thunder of taiko drumming and the big hits of a sumo match, or the exquisite beauty of ikebana and bonsai, the tranquility of a candlelight walk in the Japanese Garden, and more. New this year is bunraku, a form of traditional Japanese puppet theater, presented by the University of Missouri–Columbia Bunraku Bay Puppet Troupe. Detailed, four-foot-tall wooden puppets come to life as they act out dramas, aided by a system of rods, levers, and teams of puppeteers.

Admission: $15 adults (13–64), $10 seniors (65+), $5 children (3–12), $5 members (members' children 12 and under are free). Skip the lines and buy tickets in advance at www.mobot.org. No trams.

Sponsorship support for the 2009 Japanese Festival provided by Novus International, Inc. and Central States Coca-Cola Bottling Company. Additional support provided by Biokyowa, Inc.; Bodine Aluminum Inc.; Consulate General of Japan; Japan America Society of St. Louis; Japanese American Citizens League; Japanese American Silver Circle; PB Americas, Inc.; Sojitz Aerospace America Corporation; TG Missouri Corporation; and Toyota Tsusho America, Inc.

Plastic Pot Recycling

9 a.m. to 5 p.m. daily through September 30

This month is your last chance this year to close the gardening loop with the Garden's Plastic Pot Recycling program! You can recycle empty plastic garden pots, cell packs, and trays. For information, call (314) 577-9440 or visit www.plasticpotrecycling.org.

Fall Garden Party

A Cocktail Reception to benefit the Plants of Merit® program

Sunday, September 13, 5:30 to 7:30 p.m.
Bowood Farms Nursery, 4605 Olive St.

The Plants of Merit program serves to promote plants that are well-adapted to the lower Midwest. All proceeds from this event will be matched dollar for dollar by a generous challenge grant from the William T. Kemper Foundation—Commerce Bank, Trustee. Bowood Farms is a once abandoned auto repair warehouse renovated using numerous green building practices, including a living, green roof and environmentally friendly construction materials. Tickets: Patron level—$500; Friend level—$100. Valet parking available. Reservations required; (314) 577-0879 or brenda.zanola@mobot.org.

Members' Event: Grandparents' Day ✿ ☺

Sunday, September 13, 1 to 3 p.m.,
Linnean Plaza

Enjoy fun activities, a botanical craft, and an afternoon at the Garden with your grandchild. Advance reservations required; (314) 577-9570 or www.mobot.org/membership. For more information, call (314) 577-5154.

photo by Frans Lanting

Frans Lanting lecture and book signing

September 18, 10 a.m., Shoenberg Theater.
Book signing, 11:30 a.m., Garden Gate Shop

Hailed as one of the greatest nature photographers of all time, Frans Lanting's work has appeared around the world in books, magazines, and exhibitions. He has documented wildlife and the natural environment for more than two decades. His exhibition, "Madagascar," is on display through September 30 at the Garden, which conducts significant scientific research and conservation on the island of Madagascar.

Art Takes Flight

September 25, 6:30 to 9 p.m., Butterfly House

Enjoy an evening of food, wine, and live jazz under the stars. Bid on works created by the metro area's most popular artists. Proceeds from the event will benefit Butterfly House conservation programs. Ticket prices start at $75 per person; sponsorship opportunities available. Advance reservations required; (314) 577-5199 or joyce.pluhar@mobot.org.

☺ = fun for families
✿ = members' event

September 2009

average temperature: low 60.3°, high 80.1°
average monthly precipitation: 2.96 in.

What's in bloom?

download the podcast at www.gardeninghelp.org

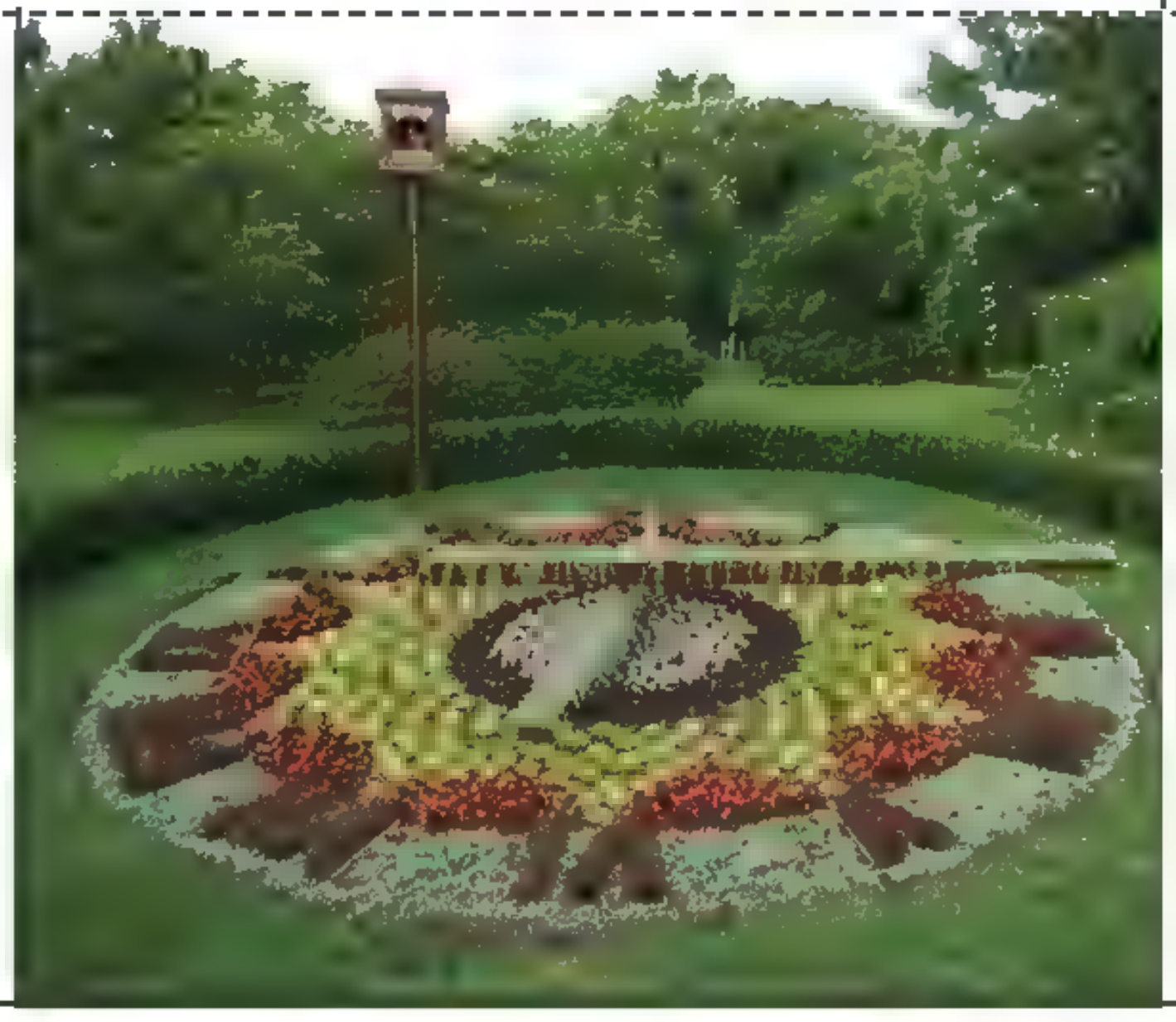
fall asters

windflower

coneflower

hydrangea

blood flower

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		01 "Madagascar," Frans Lanting exhibit, through Sept. 30	02	03 garden Nights	04 Native Plant School: Open House and Plant Sale. 4 to 8 p.m. SNR $☎	05 2009 japanese FESTIVAL
06 2009 japanese FESTIVAL	07 LABOR DAY 2009 japanese FESTIVAL	08	09	10 Native Plant School: Prairie and Savanna Reconstruction Pt. 2—Seeding and Maintenance. 1 to 4 p.m. SNR $☎	11	12 Greater St. Louis Daylily Society sale Joe McFarland book signing, noon to 2 p.m. GGS
13 GRANDPARENTS' DAY Greater St. Louis Daylily Society sale Members' Event: Grandparents' Day. 1 to 3 p.m. CA ☎ Fall Garden Party $☎	14	15	16	17	18 Frans Lanting lecture, 10 a.m. ST. and book signing. 11:30 a.m., GGS	19 ROSH HASHANAH Ann Liberman book signing. 12 to 2 p.m. GGS Public Tour Days. EWC
20 EID-AL-FITR BUZZ. 12:30 to 2 p.m. BH $☎ Public Tour Days. EWC	21	22	23	24	25 Greater St. Louis Dahlia Society show Spring Bulb Sale. GGS Art Takes Flight. 6:30 to 9 p.m., BH $☎	26 Rhapsody In Bloom. 10 a.m. to 3 p.m. Greater St. Louis Dahlia Society show Adalbert Dietz book signing, noon to 2 p.m., GGS Spring Bulb Sale, GGS Green Homes Festival, 10 a.m. to 6 p.m. EWC
27 Greater St. Louis Dahlia Society show Spring Bulb Sale, GGS BUZZ. 12:30 to 2 p.m. BH $☎	28 YOM YIPPUR	29	30 www.plasticpotrecycling.org		**Make Time to See the Floral Clock!** *through October 31* Time is running out to see the Garden's floral clock, a 20-foot-diameter working clock, created entirely of plant material in honor of the Garden's 150th anniversary. *Support for the floral clock provided by Mr. and Mrs. William R. Orthwein, Jr.*	

photos by Sarah Greene, Becky Homan, Brian Mueller, Paul Straatmann, and Laila Wessel.

October Events

Visit www.mobot.org for the latest information.

photo by Erin Whitson

Best of Missouri Market®

Saturday–Sunday, October 3–4, 9 a.m. to 5 p.m. ☺
Members-only early bird shopping Saturday 7 to 9 a.m. ✿

The Garden's eighteenth annual Best of Missouri Market® features over 120 Missouri food producers and craftspeople offering fresh produce, baked goods, fresh and dried flowers, herbs, handcrafted items, baskets, wooden toys, custom jewelry, and more. Live music and a Kids Corner with cow milking, pumpkin decorating, and barnyard animals. Outdoors under tents, rain or shine. Park for free in lots along Shaw Boulevard with complimentary shuttles.

Admission: $12, $10 seniors (65+), $5 for Garden members and children ages 3–12. Buy tickets in advance online at www.mobot.org starting in September. No trams.

Support for the Best of Missouri Market is provided by Schnuck Markets, Inc. (presenting sponsor), AgriMissouri, Central States Coca-Cola Bottling Company, Commerce Bank, Drury Hotels Company LLC, Great Harvest Bread Co., The Home Depot, Ingersoll Rand Climate Control Technologies/Hussmann, KMOX, Ronnoco Coffee Company, St. John's Mercy Children's Hospital, Traube Tent Co., Waterway Gas & Wash, and Wehrenberg Theatres.

EarthWays:
Living the Green Life ☺

through October 31, Brookings Interpretive Center
The Tree of Life and her animated friends have a lot to teach about living the green life, but you'd better hurry—this interactive exhibit is only here through Oct. 31! *Presented by Maritz.*

Losing Paradise? Endangered Plants Here and Around the World

Thursday, October 1 to Sunday, November 15, Ridgway Visitor Center
Free Opening Program and Reception
Wednesday, October 7, 5:45 p.m.
This American Society of Botanical Artists traveling exhibition kicks off its tour at the Garden. The October 7 program includes remarks from Dr. Peter Raven, the ASBA exhibitions coordinator, and Center for Plant Conservation scientists. An artists' reception follows with light refreshments. Reservations required; call (314) 577-0221.

Young Friends' Event:
Fest-of-Ale ✿

Friday, October 16, 6 to 10 p.m.,
Spoehrer Plaza/Monsanto Hall
Enjoy appetizers, beer provided by Anheuser-Busch, and live music under the stars with the Young Friends of the Missouri Botanical Garden. $15 for Young Friends' Garden members, $30 for non-members. Reservations required; (314) 577-9570 or www.mobot.org/membership. For more information, call (314) 577-9532.

☺ = fun for families
✿ = members' event

TOMS Shoes:
"Style Your Sole" Party ☺

October 24, 1 to 5 p.m., Spoehrer Plaza
Join the Garden Gate Shop for St. Louis's first TOMS Style Your Sole Party! Start with a solid pair of TOMS and use markers, pens, stencils, or even paint to personalize your shoes. Style them yourself or let our artists customize for you! Order in advance from August 24 through October 5 to make sure you get the style, size, and color you want. Visit gardengateshop.org to view styles and call (314) 577-0865 to order.

photo by Josh Monken

Members' Event: Ghouls in the Garden ✿ ☺

October 25, 1 to 3 p.m.,
Garden grounds
Witches and pirates and vampires—oh my! Visit themed trick-or-treat stations throughout the Garden. Free for Garden members. Reservations required; (314) 577-9570 or www.mobot.org/membership.

Children's Garden
Closing for the Season ☺

Sunday, October 25 to Sunday, November 1
Help put the Doris I. Schnuck Children's Garden to bed for the season! Participate in fall-themed activities all week long. At different times, plant bulbs, sow seeds, and learn about fall harvest and hibernation. Fall is a great time to experience the Children's Garden with the youngsters in your life. Visit us at www.mobot.org/finn for a detailed schedule of activities.

October
2009

average temperature: low 48.2°, high 68.3°
average monthly precipitation: 2.76 in.

What's in bloom? download the podcast at www.gardeninghelp.org

gourds

dahlia

goldenrod

mums

willowed-sunflower

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		Open through October only: ■ Children's Garden ■ Tram operation ■ Terrace Café at Kemper Center for Home Gardening		01 ■ "Losing Paradise? Endangered Plants Here and Around the World" exhibit, through Nov. 15	02	03
04 ■ BUZZ. 12:30 to 2 p.m. BH $☎	05	06	07 ■ "Losing Paradise?" Opening Program and Reception, 5:45 p.m. ☎	08 ■ Native Plant School: Native Perennials and Grasses for Landscaping—Fall Blooming, 1 to 4 p.m. SNR $☎	09	10 ■ Lisa Lohman jewelry trunk show, 10 a.m. to 4 p.m., GGS
11 ■ BUZZ. 12:30 to 2 p.m. BH $☎ ■ Lisa Lohman jewelry trunk show, 10 a.m. to 4 p.m., GGS	12 COLUMBUS DAY	13	14 ■ AARP "Celebration of Life," 8 a.m. to 2 p.m.	15	16 ✿ Young Friends' Event: Fest-of-Ale, 6 to 10 p.m., RC $	17 DIWALI ■ Carver Day, 10 a.m. to 3 p.m. ■ Greater St. Louis Daffodil Society sale ■ Public Tour Day, EWC
18 ■ Greater St. Louis Daffodil Society sale ■ BUZZ. 12:30 to 2 p.m. BH $☎ ■ Public Tour Day, EWC	19	20	21	22	23	24 ■ Mid America Regional Lily Society sale ■ TOMS Shoes "Style Your Sole" event, 1 to 5 p.m., GGS $ ■ "Bootterflies" Halloween party, 11 a.m. to 2 p.m. BH
25 ✿ Members' Event: Ghouls in the Garden, 1 to 3 p.m., ☎ ■ Mid America Regional Lily Society sale ■ BUZZ. 12:30 to 2 p.m. BH $☎ ■ "Bootterflies" Halloween party, 11 a.m. to 2 p.m. BH	26 ■ Children's Garden Closing for the Season	27 ■ Children's Garden Closing for the Season	28 ■ Children's Garden Closing for the Season	29 ■ Children's Garden Closing for the Season	30 ■ Children's Garden Closing for the Season	31 HALLOWEEN ■ Metropolitan St. Louis African Violet Council sale ■ Children's Garden Closing for the Season

photos by Lauren Kirkwood, JJ Lane, Mary Lou Olson, Tammy Palmier, Laila Wessel, and Erin Whitson.

November Events

Visit www.mobot.org for the latest information.

photo by Brian Mueller

Gardenland Express

November 25, 2009 through January 3, 2010 ☺

One of St. Louis's most beloved holiday traditions returns with "Gardenland Express." Commemorating the Garden's 150th anniversary, this year's holiday flower and train show truly celebrates the botanical diversity of the Garden, with some new twists on the traditional inclusions as well as floral representatives of the Garden's Victorian heritage. Eight G-scale model garden trains will travel along 800 feet of railway track in the Orthwein Floral Display Hall, through a colorful palette of oranges, purples, reds, lime greens, and more. In addition, look for Garden landmarks in miniature such as the Linnean House, Museum Building, Tower Grove House, and others. 9 a.m. to 5 p.m. daily; closes early at 4 p.m. on Christmas Eve and New Year's Eve; closed Christmas Day.

Gardenland Express is sponsored by CBIZ & Mayer Hoffman McCann, P.C.; Central States Coca-Cola Bottling Company; Miss Marian L. Herr; Hobby Station; and Mr. and Mrs. William R. Orthwein, Jr.

Admission: $5 ages 3 and over, in addition to Garden admission. Members are admitted free.

Members' Evening, *Wednesday, December 2, 5 to 8 p.m.* ✿

Save the date for this members-only evening of Gardenland Express. A magical evening viewing of the holiday flower and train show includes music, cash bar, and holiday shopping in the Garden Gate Shop.

Members' Day: Holiday Decorating with Dr. Patricia Raven ✿

November 13, 11 a.m., Shoenberg Theater

Learn the latest ideas for festive holiday décor. Free for Garden members and their guests. For more information call (314) 577-5154.

photo by Mary Lou Olson

Holiday Wreath Exhibition

November 21, 2009 through January 3, 2010, Monsanto Hall

This exhibit features unique creations by some of the area's finest floral designers. All wreaths are sold by silent auction bidding, with proceeds benefiting the Missouri Botanical Garden.

"From the Garden—LIVE!"®

Sundays, November 1–22, 12 p.m.

Shoenberg Theater

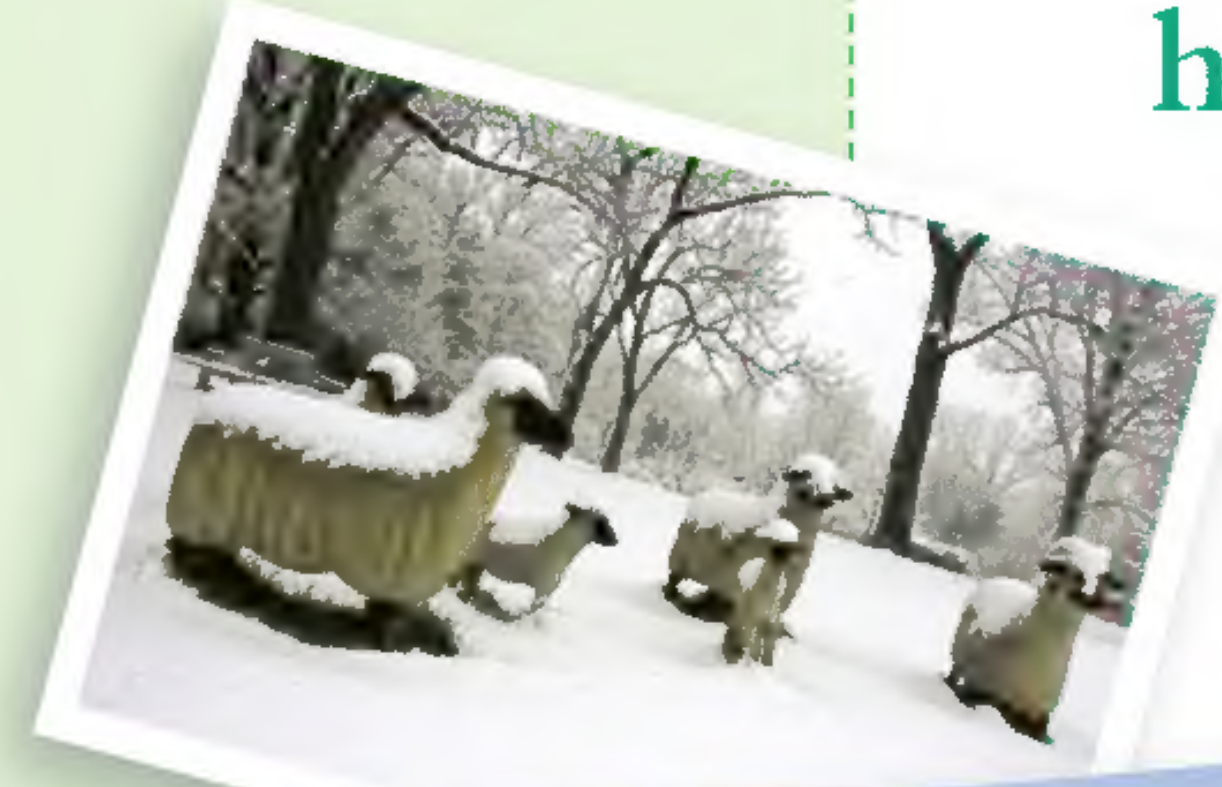
Classic99's free fall concert series, broadcast live on 99.1 FM. Sponsored by the Garden and KFUO-FM. Call (314) 725-0099 for free ticket information. www.classic99.com.

Book signing—"Passing it On: The Folklore of St. Louis"

Saturday, November 28, noon to 2 p.m.

In his book, *Passing it On: The Folklore of St. Louis—Its Traditions, Superstitions, Rituals and Folk Beliefs*, Dr. John Oldani probes the area's proverbs, superstitions, customs, legends—even insults! From childhood jump-rope rhymes and riddles to holiday customs, ethnic sayings, and modern-day graffiti and Internet quips, Oldani, a longtime professor of American studies with a Ph.D. from Saint Louis University, captures the city's lore.

Purchase your 2010 Garden calendar and holiday cards now at the Garden Gate Shop!



Missouri Botanical Garden
2010 calendar

☺ = fun for families
✿ = members' event

November
2009

average temperature: low 36.7°, high 53.8
average monthly precipitation: 3.71 in.

What's in bloom?

download the podcast at www.gardeninghelp.org

sage

fall color

pansies

anemone

burning bush

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
01 ▪ Children's Garden Closing for the Season ▪ Classic99's "From the Garden—LIVE!"® noon. ST	02	03	04 ✿ Members' 20% off sale, GGS and LS	05 ✿ Members' 20% off sale, GGS and LS	06 ✿ Members' 20% off sale, GGS and LS	07 ✿ Members' 20% off sale, GGS and LS
08 ✿ Members' 20% off sale, GGS and LS ▪ Classic99's "From the Garden—LIVE!"® noon. ST	09	10	11 VETERANS' DAY	12 ▪ Native Plant School: Deer-resistant Native Landscaping. 1 to 4 p.m. SNR $	13 ✿ Members' Day: Holiday Decorating with Dr. Patricia Raven, 11 a.m. ST ▪ Ian Adams book signing, 1 to 3 p.m., GGS	14
15 ▪ Classic99's "From the Garden—LIVE!"® noon. ST	16	17	18	19	20	21 ▪ Holiday wreath exhibition. through Jan. 3. RC ▪ Public Tour Day. EWC
22 ▪ Public Tour Day. EWC ▪ Classic99's "From the Garden—LIVE!"® noon. ST	23	24	25 ▪ Gardenland Express, annual holiday flower and train show. through Jan. 3. RC $	26 THANKSGIVING	27	28 ▪ Dr. John Oldani book signing, noon to 2 p.m., GGS
29	30					

Gift of the Garden

Just in time for the holidays, purchase family, regular, and senior-level gift memberships for 20 percent off, November 4–8 and December 2–6 at the Membership Services Desk. Discounts are for on-site sales only.

KEY *(All events take place at the Garden unless otherwise noted.)*

CA = Cohen Amphitheater
CL = Climatron lawn
GGS = Garden Gate Shop in RC
JE = Jordan Education Wing in RC
KC = Kemper Center for Home Gardening
SP = Spink Pavilion
RC = Ridgway Visitor Center
SS = Sassafras, the Garden's café in RC
ST = Shoenberg Theater in RC

Off-site locations:
BH = Butterfly House, (636) 530-0076
EWC = EarthWays Center, (314) 577-0220
LS = Little Shop Around the Corner, (314) 577-0891
SNR = Shaw Nature Reserve, (636) 451-3512

✿ Members-only event
☎ Reservations required, please see event details or call (314) 577-9400.
$ Fee

photos by Lee Shannon Rhoades, Mary Lou Olson, Justin Visnesky, and Leslie Wallace.

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MISSOURI BOTANICAL GARDEN
P.O. Box 299 • St. Louis, MO 63166–0299

PERIODICALS
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ST. LOUIS, MO

Worried about highway construction?
The Garden is...

conveniently
located off
INTERSTATE
44

For latest directions, visit www.mobot.org.

BEST of MISSOURI
MARKET

photo by Heather Marie Osborn

BEST OF MISSOURI MARKET®
October 3–4, 2009

Over 120 Missouri food producers and craftsmen present the finest edible and artistic creations the Show-Me State has to offer. Get a head start on your holiday shopping, and be sure to visit the Kids Corner with pumpkin decorating, cow milking, and more.